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COLORADO RIVER BASIN SALINITY CONTROL PROGRAM DEVELOPMENT

HEARING

BEFORE THE

SUBCOMMITTEE ON
SOIL AND WATER CONSERVATION,
FORESTRY, AND ENVIRONMENT

OF THE

COMMITTEE ON AGRICULTURE,
NUTRITION, AND FORESTRY
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

ON

S. 1842

TO AMEND THE COLORADO RIVER BASIN SALINITY CONTROL ACT TO AUTHORIZE THE SECRETARY OF AGRICULTURE TO DEVELOP AND IMPLEMENT A COORDINATED AGRICULTURAL PROGRAM IN THE COLORADO RIVER BASIN

APRIL 5, 1984

Printed for the use of the
Committee on Agriculture, Nutrition, and Forestry

U.S. GOVERNMENT PRINTING OFFICE
35-695 O WASHINGTON : 1984

S161-26

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COLORADO RIVER BASIN SALINITY CONTROL PROGRAM DEVELOPMENT

THURSDAY, APRIL 5, 1984

U.S. SENATE, SUBCOMMITTEE ON SOIL AND WATER CONSERVATION, FORESTRY, AND ENVIRONMENT, COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Washington, DC.

The subcommittee met, at 9:30 a.m., in room 328-A, Russell Senate Office Building, Hon. Roger Jepsen (chairman of the subcommittee) presiding.

Present: Senators Jepsen and Wilson.

STATEMENT OF HON. ROGER W. JEPSEN, A. U.S. SENATOR FROM IOWA

Senator JEPSEN. The Subcommittee on Soil and Water Conservation, Forestry, and Environment will come to order.

Senators on this committee and this subcommittee in particular have long had an interest in the proper soil and water management of our Nation's agricultural resources.

As the chairman of the subcommittee which has some jurisdiction over these matters, I have worked over the years to keep agricultural resource issues as priorities in implementing our national policies on the environment. One service the committee provides to the Senate and to the public is the administration of hearings on a variety of agricultural resource topics that may be regional in nature but which affect all of us nationwide.

The hearing today is one such example.

The purpose of this hearing is to consider legislation that would authorize the Secretary of Agriculture to conduct a voluntary salinity control program in the seven Colorado River Basin States.

Presently before the committee are Senate bill 1842[1] and the House passed bill, H.R 3903. Passage of this legislation into law would allow the Congress to appropriate funds to the U.S. Department of Agriculture to assist farmers in reducing saline by improving their onfarm irrigation systems.

The legislation would also allow USDA to increase the amount of cost-sharing assistance to farmers for these projects.

The States in the basin area are Wyoming, Colorado, Utah, Arizona, New Mexico, California, and Nevada. They have formed a coalition to support and work on the passage of this legislation.

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[1] See p. 59 for a reprint of S. 1842.

The Federal agencies involved have worked with the States to design a viable program.

I welcome your testimony here today and hope that it will become the basis for some sound decisionmaking on the part of the Congress.

I want to welcome all of you here and extend a special greeting to my good friend from Colorado, Senator Armstrong, when he gets here. I am advised he is in transit. Although he is not a member of the committee, Senator Armstrong has been instrumental in supporting conservation legislation before the Senate. We worked closely on the Sodbuster bill last year, and I look forward in helping him marshal this legislation through the Senate as well.

I might add that a form of the Sodbuster bill which passed in the Senate was added to a bill which passed out of the House. Maybe we are making progress.

Before we hear from Senator Armstrong, I would advise that we will proceed with the three members of the first panel, Richard D. Siegel, Deputy Assistant Secretary for Natural Resources and Environment, U.S. Department of Agriculture; Robert Olson, Acting Commissioner, Bureau of Reclamation, U.S. Department of the Interior; and George B. High, Director, Office of Mexican Affairs, U.S. Department of State.

If you gentlemen will come up here at this time and take chairs at the table and get positioned at the microphones, we will start and, at a convenient time, when Senator Armstrong arrives, we will have Senator Armstrong give his testimony and then proceed with the completion of your testimony.

Before we start, I would like to include for the record the following letters: A letter from the 14 U.S. Senators who represent the basin States supporting this bill; a letter from the Honorable Richard Bryan, Governor of Nevada, supporting the legislation before us and the work of the Colorado Salinity River Basin Control Forum; and a letter from Jack L. Stonehocker, director, Colorado River Commission of Nevada; and a statement from Daniel F. Lawrence, director, Utah Division of Water Resources,[1] all supporting these bills.

[The following letters were received by the subcommittee:]

U.S. SENATE,
Washington, DC, March 16, 1984.

Hon. ROGER JEPSEN,
Chairman, Subcommittee on Soil and Water Conservation, Forestry and Environment, Senate Committee on Agriculture, Nutrition, and Forestry, Washington, DC.

DEAR MR. CHAIRMAN: On September 14, 1983, S. 1842, a bill to amend the 1974 Colorado River Salinity Control Act, was introduced to authorize the Secretary of Agriculture to implement a more intensive on-farm program to reduce salinity pollution in the Colorado River. S. 1842 and the House passed version of our bill, H.R. 3903, are currently before your Committee. This legislation is very important to our states, and we ask that you hold hearings on these bills at your earliest convenience.

Salt pollution of the Colorado River has been an increasing problem over the last several years. Currently, about nine million tons of salt enter Lake Mead annually, causing millions of dollars of damage to farm operations in Arizona and California and resulting in salt levels in drinking water above the recommended EPA levels of

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[1] See p. 57 for the statement of Mr. Lawrence.

500 milligrams per liter of total dissolved salts. Moreover, we are faced with Treaty committments on the Colorado River to provide quality water to the Republic of Mexico.

The Colorado River salinity control program was authorized by Congress in 1974 for on-farm conservation programs to be administered by the Interior and Agriculture Departments in affected areas of the country to reduce saline drainage resulting from poor farming practices. The Soil Conservation Service of the Department of Agriculture was directed to provide the technical assistance and funds for the program came from the Agricultural Conservation Program. Since implementation of the on-farm program, it has proven itself to be very cost-effective in reducing saline drainage into the Colorado River, and nine years of experience indicates that it should be used more extensively to combat salt pollution.

Currently, some 37% of the salt in the Colorado River comes from poor irrigation practices with the balance from activities of man or other natural sources. These other sources are being addressed in a companion bill, S. 752, now pending before the Senate Committee on Energy and Natural Resources. That Committee is now in a posture to mark-up the legislation, and the cosponsors of that measure have sent the attached letter to Senator McClure, recommending an amendment in the form of a substitute.

Moreover, the President is asking for $12,500,000 for fiscal 1985 for the on-farm program. He has also recommended that a separate program be established for on-farm programs in the Department of Agriculture to prevent overlap with other existing conservation programs. The benefit of establishing a separate program will be to avoid restrictions in the current programs which limit the entities with whom the Secretary may cooperate and the funds available to be used on individual farms.

In closing, all seven states of the Colorado River Basin have actively pursued the on-farm program and fully support the two bills before your Committee, in addition to S. 742. We respectfully request that your Committee take up S. 1842 and stand ready to assist you in your consideration of the bill.

Sincerely,

William L. Armstrong, Pete Wilson, Orrin G. Hatch, Pete V. Domenici, Barry Goldwater, Chic Hecht, Alan K. Simpson, Paul Laxalt, Gary Hart, Jake Garn, Jeff Bingaman, Dennis DeConcini, Alan Cranston and Malcolm Wallop.

THE STATE OF NEVADA,
EXECUTIVE CHAMBER,
Carson City, NV, March 30, 1984.

Hon. ROGER W. JEPSEN,
Senate Agriculture Committee, U.S. Senate, Washington, DC.

DEAR SENATOR JEPSEN: Nevada's representatives on the Colorado River Basin Salinity Control Forum have kept me fully informed on matters relating to the Colorado River, and I would like to indicate my support for the testimony which will be provided by the Forum in support of S. 1842 and H.R. 3903. The passage of this legislation is necessary to assure that the water resources of one of our nation's greatest rivers are developed with prudent safeguards prescribed for the maintenance of water quality objectives as set forth in P.L. 93-320.

The State of Nevada relies heavily on the Colorado to meet its rapidly growing municipal and industrial water demands. Approximately 70 percent of Southern Nevada's current water demands are met by Colorado River water. Soon after the turn of the century, approximately 90 percent of Southern Nevada's water demands must be satisfied by the Colorado River. That translates into a population of 750,000 to 1,000,000 people who will look to the Colorado as their primary potable water supply. I am advised the amendatory salinity control legislation, as reflected in S. 1842 and H.R. 3903 is necessary if the water quality objectives of P.L. 93-320 are to be implemented in time to meet the needs of our citizens.

I wish to stress Nevada's present and future water resource needs are not altogether unique as compared to those of the other Colorado River Basin States. I reference Nevada only to emphasize, from our local perspective, the urgency and need for your favorable action on S. 1842 and H.R. 3903. Indeed, a common purpose among the seven Basin States is reflected in the testimony submitted to you by the Salinity Control Forum.

Thank you for your careful consideration of these bills that are so important to Nevada as well as the other Colorado River Basin States, the United States and Mexico. Please include this communication in your hearing record.

Sincerely,

RICHARD H. BRYAN, *Governor.*

State of Nevada,
Colorado River Commission,
Las Vegas, NV, March 30, 1984.

Hon. Roger W. Jepsen,
Senate Agriculture Committee, U.S. Senate, Washington, DC.

Dear Senator Jepsen: The Colorado River Commission of Nevada has been advised that the Senate Agriculture Committee has scheduled hearings on salinity legislation (S. 1842 and H.R. 3903) for April 5. As Nevada gubernatorial representative on salinity control matters and appointee to the Colorado River Basin Salinity Control Forum, I support the testimony which will be presented on behalf of the Forum at this hearing. This legislation is extremely important to the State of Nevada as well as the other Colorado River Basin States, the United States and Mexico.

The success of this amendatory legislation is necessary if we are to assure the water resources of one of our nation's greatest rivers will be developed in compliance with the water quality objectives set forth in P.L. 93-320.

On behalf of the citizens of Nevada I encourage you to move affirmatively and exeditiously on this legislation. Please include this letter of support in your hearing record.

Sincerely,

Jack L. Stonehocker, *Director.*

Senator Jepsen. All of the written testimony that you have will be entered into the record as if read.

You may proceed, Mr. Siegel.

STATEMENT OF HON. RICHARD D. SIEGEL, DEPUTY ASSISTANT SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE

Mr. Siegel. Mr. Chairman, thank you very much.

My role here is to speak for the Department of Agriculture, and my statement does lay out the nature of the problem as we see it from the Department of Agriculture.

Since I am the first witness, I would like to deliver my statement more or less in full form because I think, as the initial statement, it would set the stage and make it possible for my colleagues and for other witnesses to abbreviate their statements.

On behalf of USDA and Secretary Block, I am pleased to appear before your subcommittee to discuss the administration's position on the bills being heard today.

Both S. 1842 and H.R. 3903 are legislative proposals submitted by the Department of Agriculture as administration bills. We appreciate the House of Representatives acting upon H.R. 3903. We also appreciate this subcommittee's action in holding hearings on this important legislation.

Before commenting on the specifics, I would like to briefly explain the salinity problem and prior Federal efforts to address it.

At the headwaters of the Colorado River in Colorado and Wyoming, salinity—the concentration of dissolved salt in water—averages about 50 milligrams per liter, mg/L. The 1982 USDA Annual Report on the Colorado River Basin Salinity Control Program, which is a very informative document, showed that as the waters move down through the river system, salinity increases to an average annual concentration of 820 mg/L at Imperial Dam just north of Yuma, AZ. Most of that salinity in the river results from natural phenomena, such as erosion, sediment, and natural runoff from rangelands and nonagricultural mountainous areas. Yet manmade causes play an important part in the salinity problem, and that is what the program in the Department of Agriculture and the Department of the Interior is intended to address. The intensive use of the river waters for a variety of purposes reduces the river's overall flow, so that downstream there is a higher ratio of salts to water.

One intensive use alone—irrigated agriculture—causes 37 percent of the salinity. Water that is used for irrigation evaporates in the fields, leaving residual salts. Irrigation return flows put the now saltier water back in the river. Other irrigation water percolates downward into the saline shale subsoil below the root zone. That ground water picks up more salt in that layer as it drains toward the river.

Below Imperial Dam in southern Arizona, the principal agricultural cause of salinity has been the irrigation return flows from the Wellton Mohawk Irrigation and Drainage District. In the early 1960's, salinity concentrations where the river entered Mexico below Imperial Dam reached 1,300 mg/L.

Salinity affects agricultural water users in both the upper and lower Colorado River Basin areas. In other words, the quality of the water in the Colorado River as it is affected by salinity has an effect on the agricultural use of that water.

Salinity in irrigation water drawn from the Colorado River has led to an increase in soil salinity, which eventually restricts the types of crops grown and suppresses crop yields. Agricultural producers then move to alternate crops of lesser cash value, such as barley, instead of fruits and vegetables. Where soil salinity becomes severe, fields or whole farms may lose all production potential.

In addition, salinity affects a broad range of municipal and industrial users of water supplies in the Colorado River Basin and the Los Angeles area. Major damage to municipal water supply systems is occurring in the lower Colorado River region and in systems outside the drainage which receive diverted water because of the increasing salt content in the Colorado River. Salinity hardens the water, requiring increased use of soaps and detergents and raising water-softening costs. It causes corrosion and scaling of water pipes and heaters. It accelerates fabric wear. In industry, salinity damages include the need for water softening, demineralization and, in some cases, chlorination of cooling systems to eliminate corrosion and mineral deposits. In many cases, industries need to pretreat their processing waters for transporting, mixing, washing, and cooking operations. Salinity levels in cooling waters also affect the rate of scale formation on heated surfaces. So this is an insidious corrosion problem in the industrial and municipal uses of water that come from this phenomenon of salinity.

Now, what have the prior efforts been of the Federal Government?

The United States has had a long-term working relationship with Mexico with regard to the Colorado River. On February 3, 1944, the United States and Mexico signed the Treaty for the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande. The treaty, commonly referred to as the Mexican Water Treaty of 1944, allotted to Mexico 1,500,000 acre-feet annually of the waters of the Colorado River.

As irrigation developments in the U.S. portion of the basin expanded, water quality problems developed from increasing salinity, and Mexico protested. In 1972, 12 years ago, the President named a special representative, former Attorney General Herbert Brownell, to develop a permanent, definitive solution to the salinity problem in the Colorado River.

As a result, minute No. 242 of the International Boundary and Water Commission was developed and signed in 1973. Minute 242 provided that the total dissolved solids (salts) in the Colorado River waters delivered to Mexico cannot exceed those of the U.S. waters diverted from the river at Imperial Dam near Yuma, AZ, by more than 115 ppm plus or minus 30, which means this is a relative standard. Whatever the salinity is at the water above the Imperial Dam, there is a range of permissible tolerances that we are to deliver water to Mexico. So it is a relative standard at the moment. Since the adoption of minute No. 242, the quality of waters delivered to Mexico has consistently been in compliance with the standard.

In 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320. Title I deals with maintaining appropriate salinity levels for Colorado River flows to Mexico below Imperial Dam. Among other measures, it authorizes an onfarm salinity control project for the Wellton-Mohawk Irrigation and Drainage District. Title II of the act, which we are concerned with amending today, assigned the responsibility for salinity control projects above Imperial Dam to both USDA and to USDI. The act directed the Secretary of the Interior, working with USDA and the Environmental Protection Agency, EPA, to investigate, plan, design, and install certain authorized projects that would address salinity problems in the Colorado River Basin above Imperial Dam. The two projects initiated so far under title II by USDA are in Grand Valley, CO, and in the Uinta Basin, UT. The act instructs the Secretary of Agriculture to use existing USDA authorities and programs when it cooperates with USDI and EPA in these salinity control projects. So title II of the 1974 legislation drew the Department of Agriculture into the salinity control process but did not anticipate that USDA would need more than its existing program authorities in order to take this role.

Through the Bureau of Reclamation, USDI has continued to plan and implement salinity control projects for various point and diffuse sources and irrigation sources of salinity. In units established to control salinity from irrigation, the Bureau concentrates on offfarm efforts, such as lining primary canal and lateral delivery systems. These are the canal and delivery systems that were built by the Bureau of Reclamation. USDA concentrates upon onfarm improvements to irrigation systems and to water management.

The work authorized by Public Law 93-320 has a close connection with the Clean Water Act of 1972, Public Law 92-500. The Clean Water Act programs and authorities have been used since 1970 to address water quality in the Colorado River. The seven basin States have jointly agreed that salinity is a basinwide problem and developed mainstream standards for the river with the approval of EPA. USDA, USDI, and EPA have cooperated with the seven basin States under both these laws.

Through agencies such as the Soil Conservation Service, SCS, Agricultural Research Service, ARS, Extension Service, ES, Cooperative State Research Service, CSRS, and Agricultural Stabilization and Conservation Service, ASCS, USDA has played a major role since 1974 in formulating, developing, and implementing an effective approach to reducing salt loads contributed to the Colorado River from onfarm irrigated agricultural croplands and related farm laterals and irrigation canals. Since 1979, SCS and ASCS have been supporting the Grand Valley and Uinta Basin projects through onfarm technical assistance and cost-sharing funds, respectively. In the Grand Valley stage I project area, the Bureau of Reclamation has planned and installed its first major canal and lateral lining improvements for salinity control, and USDA has coordinated its onfarm assistance with the Bureau's work.

In addition, USDA has conducted salinity control studies, research, and demonstration and education activities, and we have seen cooperation between the Bureau of Reclamation which has been improving its main canals and laterals for delivering irrigation water. Down at the level of the individual farm unit, we have seen the Department of Agriculture working one on one with individual landowners

In addition, SCS has conducted detailed salinity control studies on priority irrigation salt source areas within the river basin. Within the 17 identified salt source areas, there are approximately 1 million acres of irrigated cropland. Plans have been completed for seven different project areas, totaling over 500,000 acres in five States. As we have noted, two projects are already underway in Grand Valley, CO, and Uinta Basin, UT. In 1983, SCS estimated the average salt load reduction to be 26,437 tons per year for the Uinta Basin and 23,300 tons for the Grand Valley.

The rest of the areas planned are Big Sandy, WY; Moapa Valley, NV; Lower Gunnison and McElmo Creek, CO; and Virgin Valley, NV, AZ. The seven, when fully implemented, would reduce average annual salt loads by a total of 750,000 tons. This would reduce concentrations at Imperial Dam by an estimated 93.7 mg/L.

Three more salt source areas are slated for planning: Price-San Rafael, UT; Upper Virgin River, UT; and Mancos Valley, CO. They would bring the salt reduction to 898,000 tons per year. These projects would cost USDA $369.8 million to complete by the year 2000.

These studies and the onground experience so far have demonstrated clearly that the long-term objective of substantial salt load reduction requires a combination of structures and onfarm practices. Coordination between USDA and USDI must be maintained. Neither agency working alone can ensure an adequate reduction in salinity.

What our collective experience over 10 years time has shown is that there is a good potential for cooperation between the Bureau of Reclamation and the Department of Agriculture on the salinity control sites and that we need both approaches. We need the structural improvements that the Bureau of Reclamation is going to make in the main delivery systems for irrigation. Then we need the irrigation practices themselves on the individual farm units as a matter of improved farm management. Both are necessary and complementary, and a salinity control approach cannot work without those being present.

What the USDA has discovered in working on this salinity control effort over the past 10 years is that its fragmented individual program authorities, which were anticipated in 1974 as being adequate for this job, have not been wholly adequate. This is why we are seeking new legislation to combine our program authorities into one flexible approach tailored to the needs of the Colorado River salinity problem.

Let me explain what I mean. The cost-sharing given to individual farmers has to be done according to the ACP formula. The ACP formula has an arbitrary limit of $3,500 per year per landowner. This is an arbitrary and limiting factor in the salinity control work that we can do.

The other restriction under the ACP formula is that the ACP funds can only be given to individual landowners who are agricultural producers and many of the responsible entities for salinity control in these areas are combinations of farmers. They are canal companies, groups of farmers that own the canals for their irrigation district, and the ACP funding cannot go directly to these entities, so all types of subterfuges—well, I will not call them subterfuges—but unusual arrangements have to be made to circumvent these hobbling restrictions.

Senator **Jepsen**. You have a cap of $3,500 per farmer, per year of ACP cost-sharing funds. Is that right?

Mr. **Siegel**. That is right.

Senator **Jepsen**. Would you suggest we remove that ceiling?

Mr. **Siegel**. We would suggest we take it off and leave it to the availability of funds in the project area.

Senator **Jepsen**. Would we do that with the rest of the country too? How about Iowa?

Mr. **Siegel**. No, we are not suggesting that for the rest of the country.

Senator **Jepsen**. You want to keep the cap on and just take it off for projects in the Colorado River Basin States?

Mr. **Siegel**. We know $3,500 is grossly inadequate. We would not really know where to set the cap once we get beyond that. There are some situations where the most prudent investment might be to spend with a canal company or irrigation district as much as $250,000 in a particular year. That would probably be the best and most efficient management of the project to be able to spend those kinds of sums.

Senator **Jepsen**. There are a lot of projects in other places across the country where spending in excess of the $3,500 limit would also be better and more efficient for the management of the projects. I think we had better talk about this because it is going to be talked about. If you take the cap off in the basin States, what about removing it for projects in the Midwest or the Southeast?

Mr. **Siegel**. This is a multistage regional problem of water quality and a common river basin and a common stream, and it has implication not only for the water quality of the metropolitan area downstream, but also the water quality in a sovereign country, Mexico.

Senator **Jepsen**. I am just talking about the cap.

Mr. **Siegel**. If you look at the job that needs to be done and the nature of this program and why there is a special program in the first place, I think you can see that the cap and our experience has shown that having an arbitrary cap of any kind works against the maximum effectiveness of getting this particular job done.

There is a cap in other parts of the country because the program has different objectives and different characteristics than this program does.

Senator **Jepsen**. So you do not think having a $3,500 cap in one place or less and a different cap or no cap in another place would be in order?

Mr. **Siegel**. This is not really an ACP program. It was given to ACP to manage because of their personnel and delivery systems, and the ACP's methods, but this is a Colorado River quality program.

The reason for cost sharing in this area is for offsite benefits of the cost sharing. There is a rural clean water program, too, which does not have some of the same restrictions that the ACP cap does.

Senator **Jepsen**. Just for the record, I want to air it a little bit and get a little ventilation. There are farmers in other parts of the country who depend on irrigation for crop production, and this is not the only place where we have a salinity problem. I am just wondering if we are going to take off the cap whether we should do it nationwide or just for this project, or maybe lift the cap. If we decide to increase it, do you have any ballpark figure of what you might accept as a cap?

Mr. **Siegel**. If I could confer with my colleagues on that for a moment, Senator, perhaps we can give you that figure.

There is a cap currently in effect for the rural clear water program which I mentioned a moment ago of $50,000. If a similar cap, or if a cap of any size were agreed on or were arrived at for the Colorado River salinity payments, we would need to apply a cap to the individual property owner but not have any cap in effect for an irrigation district or a canal company which represents a collective group of landowners.

Senator **Jepsen**. The Department of the Interior initially was to take the lead in this, and the USDA was to help out.

I understand the Senate bill which you support does not require the USDA support maintenance of an irrigation program once it is in place. Do you intend to have an agreement with the farmers that the irrigation system must be maintained?

Mr. **Siegel**. Yes, this is a standard feature of the contracts we have.

Senator **Jepsen**. Does the statute need to be amended to have that in there, or is that sufficient to do it individually with contracts?

Mr. **Siegel**. I think it is sufficient, Mr. Chairman.

I have just been discussing with you the difficulties that have arisen trying to run the cost-sharing program under the Department of Agriculture which represents the bulk of our funding through the Department of Agriculture and the difficulties which have arisen because we are trying to work under existing authorities that are not tailored to meet this particular need.

Now, in the President's budget for fiscal year 1984, this administration requested $12.5 million for the onfarm salinity control program in a single separate account, but for fiscal year 1984 efforts to move appropriate authorizing legislation to support that appropriation request were not successful.

In 1985, we have submitted a similar budget request for $12.5 million, but we are also hoping we can now achieve through these proceedings suitable authorizing legislation.

There are some minor technical differences between S. 1842 and H.R. 3903.

H.R. 3903 was a bill developed in order to pass the House of Representatives with the jurisdiction solely lying in the House Committee on Agriculture.

S. 1842 is a bill which is related to the underlying legislation, the Colorado Salinity Control Act of 1974. The specific details of these bills are relatively minor and technical and are spelled out on page 9 of my prepared statement together with a very minor suggested amendment found at the bottom of page 9.

We would like to conclude by saying this legislation is timely legislation.

The Colorado River Salinity Control Program has grown in importance since 1974. It has regional, national, and international consequences. We are working with Mexico in good faith to control the salinity on the river and enactment of either H.R. 3903, which has passed the House, or S. 1842 would make better use of the water resources that are limited in the Colorado River Basin.

We are telling farmers how to better conserve the water, because this serves not only the needs of water supply, but it increases yields and also has offsite benefits. We could conserve water through improved irrigation and water management.

We would improve agricultural productivity by better irrigation techniques and reduce salinity in the waters used for irrigation.

We would improve the water quality in the stream, and so we have multiple benefits that come from this salinity program.

So we support the enactment of H.R. 3903 which has already passed the House of Representatives, or S. 1842 which is a virtual twin. Each of these bills would provide the legislative authority needed to support the commitment in the President's 1985 budget which has already been made.

Mr. Chairman, I appreciate your attention and the opportunity to testify. I hope that by dwelling on some of the background that details, I have been able to make my colleagues' job a little more abbreviated.

Senator **Jepsen**. Thank you, Mr. Siegel.

Senator Armstrong, would you want to come forward, please.

While the Senator is coming up to the table, quickly, Mr. Siegel, how would you characterize the farmer acceptance and interest in the limited salinity control program the USDA has been operating since 1974?

Mr. **Siegel**. Our results have been extremely encouraging at the farmer level. You will hear firsthand later in the hearing from farmers in the Uinta Basin who have been participating in the program. I personally had an opportunity to observe this on a field trip I made last November. I would say the interest is definitely there and we would be remiss if we did not give the Department of Agriculture a better legislative tool in which to build on this excellent foundation of farmer interest.

Senator JEPSEN. I thank you, and I welcome now Senator Armstrong, my good friend from Colorado, who has been a leader in so many areas of the Congress and the country, and I especially appreciate his help and leadership in this subcommittee in the field of soil conservation. He pioneered the Sodbuster bill which a lot of people are sharing credit for. We have had a measure of success in passing it in the Senate, and my colleagues and I got busy with the House and worked on the passage of the bill. It seems that 1984 may be a good year in which to get this legislation through.

We will continue to push for that. That would be most helpful and a giant step in the right direction. You are sort of the father of that legislation, and I will tell everybody how much I appreciate your assistance.

Here again now you are playing a key role in the Colorado River Basin salinity control program.

I understand that the Colorado River Basin States are organized and speak collectively through the Colorado River Salinity Control Forum.

The forum supports the legislation we have. It is exciting to see such enthusiasm and unanimity. I hope the USDA will be as successful in convincing the farmers to take part in the program.

Again thank you for coming.

Senator Armstrong, you may proceed in any way you desire. Your statement may be entered in the record.

STATEMENT OF HON. WILLIAM L. ARMSTRONG, A U.S. SENATOR FROM COLORADO

Senator ARMSTRONG. Thank you, Mr. Chairman.

I wanted to come over and express my interest in the hearings you are holding on S. 1842 and its companion bill passed by the House of Representatives, H.R. 3903. This is terribly important legislation.

The salinity in the Colorado River is growing more and more serious and is understood to be more and more serious by municipal water users, ranchers, and even people concerned about relations between this country and Mexico. It is getting to be a very serious problem.

I appreciate so much not only your interest in this, but the opportunity you gave me to appear on the Sodbuster bill which is at last starting to move. Out our way, we have a saying that if somebody agrees on something, it takes forever; if they take issue, it takes even longer.

I do not want to take much time, Mr. Chairman. I think you are aware of the concern to which these bills are addressed.

The quality of the Colorado River is deteriorating, and it is deteriorating to the point where, in the opinion of some people, it constitutes a health hazard.

In any case, it constitutes a serious economic hazard. We estimate that $100 million a year is being lost through reduction of yields of irrigated crops and through damages to municipal and industrial water systems as a result of salt that comes in through the river through natural and manmade sources. This is a problem which is not likely to go away. In the opinion of everyone with whom I have talked, it is going to get worse.

The essence of the legislation we favor is contained in S. 1842. It would authorize the Department of Agriculture to implement a voluntary cooperative program of technical and cost-sharing assistance for private landowners in order to foster improved onfarm management practices. As you are well aware and as the other witnesses have mentioned, this is a companion to S. 752, the comprehensive salinity bill pending in the Senate Energy and Natural Resources Committee. These two bills together are unanimously supported by the Senators from California as well as those representing the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, and by the water users and others who are knowledgeable of water problems in our part of the country.

Mr. Chairman, I would like to submit my entire statement for the record as you have suggested, and I would also like to ask that a letter addressed to our colleague, Senator Nickles, on behalf of 14 Senators from the seven affected States also be entered into the record of this hearing as a part of your deliberations, because it expresses, I think, not only the sense of urgency we feel about this matter but also our unanimity. And again my thanks for permitting me to make this part of your proceedings.

Senator **Jepsen**. Thank you, Senator.

Your statement along with the letter you mentioned will be entered into the record.[1]

You mentioned the salinity program in the Senate Energy and Natural Resources Committee, and I believe this legislation has authority for the construction of salinity control units by the Bureau of Reclamation in addition to the USDA effort.

Senator **Armstrong**. I did not mean to say they are similar. They are companion in the sense that they work in tandem, but they actually address themselves to different aspects of the problem.

The bill you have here is related to onfarm management practices, and the legislation pending over in the Energy Committee actually addresses itself to a different aspect of the problem.

Senator **Jepsen**. In your opinion, we need them both?

Senator **Armstrong**. Yes, indeed we do.

Senator **Jepsen**. In your opinion, do we need them both?

Mr. **Siegel**. S. 752 includes the Agriculture authority and the Interior authority. It is a two-department bill. S. 1842 is a breakout of the agriculture component from S. 752. So I think the best of all possible worlds would be if S. 752 was enacted at one time. That would eliminate the need for a separate agricultural component bill.

Senator **Jepsen**. Maybe we ought to coordinate with our good friends, the Energy Committee, Senator McClure, and as this moves along, would it be ideal to get them both reported out and blend them together?

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[1] See p. 35 for the prepared statement of Senator Armstrong and p. 37 for the above-referred-to letter from 14 Senators to Senator Nickles.

Senator **Armstrong**. I think that would be ideal. Of course, the reason why it is split is because the issue expands the jurisdictions of both committees. Obviously, each committee will want to have its opportunity to hold hearings and perhaps offer amendments.

Senator **Jepsen**. The Department of Agriculture and the Department of Interior work hand in hand, lock step all the time, do they not?

Mr. **Siegel**. They certainly do. There would be considerable merit in having the agriculture portion of S. 752 become law even ahead of the rest of S. 752 if that were expedient. There is no need in holding back the agriculture component awaiting the rest of it. The very best thing would be to have them move together. These legislative vehicles have been formed because of the merit in having the agriculture problem solved in its own right.

Senator **Jepsen**. I thank you.

Do you have anything further, Senator?

Senator **Armstrong**. I do not other than to commend you for getting this matter before the committee. I share the opinion that has just been expressed. The best thing would be to whistle a comprehensive bill through, but since that is beyond the jurisdiction of the Agriculture Committee, if the portion of the bill which is pending before the committee meets your approval, I would encourage you act favorably upon it, and I will try to encourage the Energy Committee to do so also, but I am not certain we are going to get it done. I would like to push as much as we can at the earliest date.

Senator **Jepsen**. I assure you we will do that in this committee, and I will amaze people by working together with the Energy Committee.

Senator **Armstrong**. That would be wonderful. Thank you.

Senator **Jepsen**. At 10:30, Senator Wilson of California will be assuming the Chair for this subcommittee.

At this time, I will recognize Robert Olson, the Acting Commissioner of the Bureau of Reclamation of the Department of Interior.

George B. High, the Director of the Office of Mexican Affairs of the U.S. Department of State, will be recognized by Senator Wilson when he gets here. He has a natural constituency that is closely related. He lives closer to Mexico than I do.

With that, Mr. Olson, you may proceed in any way that you so desire. Your statement will be entered into the record, and you may proceed.

STATEMENT OF HON. ROBERT OLSON, ACTING COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Mr. **Olson**. Mr. Chairman, members of the subcommittee, on behalf of the Department of the Interior, I am pleased to appear here today to comment on S. 1842 and H.R. 3903 which would authorize the Secretary of Agriculture to develop and implement a coordinated agricultural conservation program in the Colorado River Basin.

We support these bills and the efforts of the Department of Agriculture to develop a legislative proposal that will help avoid a deteriorating salinity level of the Colorado River. This legislation would authorize the Secretary of Agriculture to establish a separate onfarm salinity control program within the Department of Agriculture, including source identification, plan development, technical and cost-sharing assistance, irrigation water management, and monitoring and related research demonstration and educational activities.

Title II of the Colorado River Basin Salinity Control Act, Public Law 93-320, implemented water quality measures for meeting Colorado River salinity standards that were approved by EPA and adopted by the basin States. It authorized construction of four salinity control units and directed the Secretary of the Interior to expedite planning studies on 12 additional units. Two of the authorized control units, Paradox Valley and Grand Valley, are currently under construction by the Bureau of Reclamation along with the Pittman Bypass portion of the Las Vegas Wash Unit. The balance of the Las Vegas Wash Unit is being reformulated and the Crystal Geyser Unit has been deferred because of unacceptable cost effectiveness. Public Law 96-375, signed into law October 10, 1980, provided feasibility authorization for 10 of the expedited planning studies.

Other pending bills, S. 752 and H.R. 2790, would provide, among other things, for construction authorization for six of the units under study. These units are the Lower Gunnison, McElmo Creek, Uinta Basin, Palo Verde Irrigation District, Saline Water Use and Disposal Opportunities, and Sinbad Valley Units. In testimony before Senate and House committees, we have requested amendments to those bills which would enable us to support their enactment.

The Department recognizes the pervasive salinity problem on the Colorado River and we welcome the introduction of these bills as a serious attempt to help remedy deficiencies in the existing program which have constrained the Department of Agriculture participation.

I might mention that as our studies of additional salinity control units for the Colorado River Basin have progressed over the past 9 years, the attractiveness of the Department of Agriculture's onfarm program for improving irrigation efficiency has become more apparent. This program has been proven to be one of the most cost effective salinity control activities available. We defer to the Department of Agriculture for further comment and recommendations on these actions.

S. 1842 and H.R. 3903 are similar to section (7) of H.R. 2790 and section (8) of S. 752, the concepts of which we also support. The main differences between the bills we are discussing today and H.R. 2790 and S. 752 are as follows:

1. H.R. 2790, S. 752 and S. 1842 would amend Public Law 93-320 and H.R. 3903 stands alone to direct the Department of Agriculture to establish an onfarm salinity control program.

2. S. 1842 and H.R. 3903 would establish a program that is similar to the normal program development process of the Department of Agriculture. H.R. 2790 and S. 752 include additional cost-sharing language not included in S. 1842 and H.R. 3903 that provides for repayment from Colorado River Basin revenues of the 25 percent non-Federal share of the salinity control program without interest over a period not to exceed 50 years. This repayment would be over

and above costs borne directly by non-Federal entities, which would be determined on an incentive basis by the Secretary of Agriculture. We have recommended amendments to H.R. 2790 and S. 752 to either provide for an interest charge on this 25-percent repayment, or to raise the repayment to 50 percent of capital costs without interest.

The Colorado River Salinity Control Program has been actively coordinated between the Departments of Agriculture and Interior since its inception. To ensure the continuation of an appropriate level of coordination, we recently met with Department of Agriculture officials. We will review and possibly expand memorandums of agreement and will designate representatives to coordinate salinity activities to eliminate any duplication of effort.

We look forward to working with the subcommittee in any way we can to develop cost-effective approaches for achieving the objectives of the salinity control program.

Mr. Chairman, that concludes my statement. I would be pleased to answer any questions.

Senator JEPSEN. I thank you.

The Special Task Force report on the special unit of the Central Valley project of the Bureau of Reclamation estimated current practices for pricing structure of irrigation in the Colorado River Basin amounts to a subsidy of $1,540 per acre and $1,100 for the Central Valley project. A subsidy of this amount is making irrigation water very expensive to farmers.

Is the Federal Government discouraging conservation practices?

Mr. OLSON. I am not sure I can comment on the accuracy of those numbers, but generally, Mr. Chairman, even in the Central Valley, the demand for Central Valley project water exceeds the available supply, and any conservation efforts that take place do create and provide for additional water supplies that can be utilized by other farm programs.

A case in point is an activity that the Bureau has going on in the southern California area with the Imperial Irrigation District where we are effectively looking at conservation measures estimated to save about 300,000 acre-feet of water per year which could be used in the Imperial Valley or elsewhere in southern California by agreement.

I think, all in all, the value of conservation efforts on water projects are recognized in the Colorado River Basin States.

Senator JEPSEN. You have not commented on S. 752, the bill awaiting action in the Senate committee.

Are you familiar with that bill?

Mr. OLSON. Yes, I am.

Senator JEPSEN. In your opinion, does S. 752 or S. 1842 address this?

Mr. OLSON. We would prefer S. 752. We believe both bills would accomplish similar objectives. S. 752 does have some features that authorize and recognize some of the additional projects for the Bureau of Reclamation, and we have asked for amendments on that bill to increase the cost sharing. So, from that point of view, we would prefer S. 752.

We do recognize that section 8 of S. 752 essentially encompasses S. 1842.

Senator **Jepsen**. Mr. High, Director of the Office of Mexican Affairs, Department of State, you may proceed. Your written testimony will be entered as read in the record, and I would ask and remind the witnesses to speak directly into the microphones. You can hear the differences as I move in. It is very helpful for our reporter.

STATEMENT OF HON. GEORGE B. HIGH, DIRECTOR, OFFICE OF MEXICAN AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. **High**. Mr. Chairman, I am grateful for this opportunity to testify today to express the Department of State's views on S. 1842 and H.R. 3903.

I will briefly summarize my testimony since the major aspects of the bill have already been covered.[1]

I want to talk about our relationships in foreign affairs and how they tie into our foreign policies, the current affairs with Mexico, and the views of the Department and the views of the U.S. Section of the International Boundary and Water Commission on this legislation.

I am accompanied by Mr. Paul B. Storing, special assistant of the U.S. Section of the IBWC.

This administration places the greatest value on developing close and friendly relations with our nearest neighbors. High level contacts between leaders of Mexico and the United States have been intense. President de la Madrid and President Reagan met last at La Paz, Baja California Sur, in August 1984, and we expect they will meet again soon here in Washington.

As a result of this intensive attention, our relationship with Mexico is good. Three years ago, Mexico jumped from our fifth to third largest trading partner. Bilateral trade was $27 billion in 1982 and about $25 billion in 1983. If it were not for Mexico's continuing economic problems, the figures for 1982 and 1983 would undoubtedly have been much higher. We purchase almost 60 percent of Mexico's exports. Mexico, during good times, purchases about 6 percent of our exports. Mexico sells us about 50 percent of all the oil it exports. In 1983, nearly a quarter of our crude oil imports came from Mexico. That country is now our largest foreign supplier of oil.

While we have had differences with Mexico on some issues—trade, for example, and precisely how to obtain peace in Central America, we have maintained an active and useful dialog to work on these issues and to seek new opportunities for cooperation.

When Mexico's economic difficulties reached a peak in August 1982, the United States was of assistance to its neighbor in many ways. We made an advance payment on petroleum purchases, provided financial assistance, and helped secure loans for Mexico. We did this because we want and need Mexico to be a strong, free, and prosperous neighbor.

In the same spirit of cooperation and in recognition of our two countries' interdependence, we worked together with Mexico just over a decade ago and resolved the serious bilateral problem of salinity of the Colorado River as it flows into Mexico. I agree with the statement of the U.S. Commissioner to the IBWC in his 1979 testimony in an appropriation hearing on title I of the 1974 Colorado River Basin Salinity Control Act, that "* * * the salinity issue with Mexico was the most serious issue to have beset our relations with that country in more than three decades."

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[1] See p. 41 for the prepared statement of Mr. High.

The Department and the U.S. section of the IBWC understand, Mr. Chairman, that S. 1842 and H.R. 3903 would authorize the Secretary of Agriculture to develop and implement a coordinated agricultural conservation program in the Colorado River Basin. In the case of S. 1842, this would be done through amendment to the Colorado River Basin Salinity Control Act. H.R. 3903 proposes to authorize the program by separate, self-standing legislation. The objective of the program is to enhance the supply and quality of water in the Colorado River for delivery to downstream users.

Let me note at the outset that the Federal Government's participation in the title II program is not required for the United States to meet its commitments under the agreement with Mexico of August 30, 1973, for a solution to the international problem of the salinity of the lower Colorado River. At the hearing held prior to the approval of the Colorado River Basin Salinity Control Act, the Department and the U.S. section supported title II—the programs downstream from Imperial Dam—to enable the United States to comply with its obligations to Mexico under the 1973 Colorado River Salinity Agreement.

Mr. Chairman, we agree with the intent of these bills. However, neither the Department of State nor the U.S. section is qualified or empowered to comment on the detailed matters of domestic concern contained in these bills, such as the manner of procedures, monitoring, and cost sharing proposed to achieve the bills' objectives. On those matters, we defer to the Department of Agriculture and the Department of the Interior.

Thank you, Mr. Chairman.

Senator JEPSEN. You state in your testimony that the United States has an obligation to deliver water to Mexico of a certain water quality level.

Is the State Department satisfied the salinity control efforts incorporated in S. 1842 are sufficient to meet the obligations?

Mr. HIGH. Yes; we are

Senator JEPSEN. Has the United States ever failed to meet its treaty obligations with Mexico?

Mr. HIGH. No, sir.

Senator JEPSEN. If not, why is it necessary to maintain our treaty obligation?

Mr. HIGH. I think it is complementary to our meeting those terms.

Senator JEPSEN. I just want it clear for the record.

Mr. SIEGEL. It would seem to me that we have a long-term interest in keeping the salinity buildup on the U.S. side of the Imperial Dam from approaching a severe crisis level, because then Mexico may not be satisfied at some future time with the relative standard it has now, and it may insist on some type of absolute standard.

Mr. HIGH. We agree with that.

Senator **Jepsen**. Senator Wilson is now here and he will assume the chair. These gentlemen have concluded their testimony.

I have visited with them, and you may either visit with them or dismiss them as you desire.

Senator **Wilson** [presiding]. Before Senator Jepsen leaves the room, I would like to express my gratitude to him. This is a far more pressing matter with my constituency than his, but he is a learned and conscientious member of the committee. I am personally indebted to him for chairing the first hour here. Thank you very much, Roger.

Knowing him to be conscientious, I assume he has asked all the pertinent questions that he should ask of this panel, and I thank you and excuse you.

Our next witness is Jack A. Barnett, executive director for the Colorado River Basin Salinity Control Forum. Welcome, Mr. Barnett.

STATEMENT OF JACK A. BARNETT, EXECUTIVE DIRECTOR, COLORADO RIVER BASIN SALINITY CONTROL FORUM

Mr. **Barnett**. Thank you, Senator Wilson.

Before you entered the room, much of the background information was provided by the Department of Agriculture witness and others. My testimony includes some of that background information, and knowing that you are from a basin State and realizing you have some of that information already available to you, I will not read my testimony in its entirety and will skip some of that background and, rather, submit it for the record and just touch on a few points I think should be emphasized.[1]

Senator **Wilson**. Thank you.

Mr. **Barnett**. I am employed by the seven Colorado River Basin States in the organization of the Colorado River Basin Salinity Control Forum. The Forum is composed of members who are appointed by the Governors of the seven Colorado River Basin States to address the salinity problems of the Colorado River.

More specifically, we are concerned with the area above Imperial Dam that represents the use of Colorado River water by the U.S. citizens.

That problem was addressed in Public Law 93-320 in 1974 under title II of that act and its amendments to title II of the act that is before the committee today.

I would like to comment that the law of the river, as we refer to it in the Colorado River area, is really a political miracle. It has taken us, as you know, decades for compacts, agreements, legislation and litigation to come to an understanding with respect to the apportionment of waters of the Colorado River.

About two decades ago, the issue of water quality also came to the front in the Colorado River. It has been over these two decades and primarily since the enactment of Public Law 93-320 in 1974 that we have been able to integrate the water quality problems and how they might be addressed into the existing law of the river.

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[1] See p. 53 for the prepared statement of Mr. Barnett.

The States agreed that their goal is to keep the salinity levels in the Colorado River at the three measured downstream points at the 1972 levels, while the States continue to develop their compact apportioned water supply. It is anticipated that without salinity control measures, the salinity levels of the river would increase as additional waters of the river are put to beneficial use.

So it is for containing those salinity levels that the program that we are now discussing has been instigated.

We estimate, out of the 9 million tons of salt that reach Lake Mead each year. By the turn of the century we will need to be removing or preventing from entering the river system about 2 million tons. That is a very significant effort to try to remove that amount of salt from the river system.

Over the last 2 years, the States have been very actively addressing the need for amendments to the salinity legislation so that this level of salt removal could be accomplished. They are now in unanimous agreement as to the type of legislation they believe should be enacted.

We have examined the two bills before the committee today and find they encompass all of the important aspects of legislative reform the States believe are necessary. Therefore, we are here today to support these bills.

Before you entered the room, there was some discussion about some legislation before the Energy Committee. This legislation before you today encompasses the agricultural portion and, if enacted, would do some significant things to allow the Department of Agriculture to proceed with onfarm programs in the Colorado River Basin, and would result in the reduction of a significant amount of salt loading of the river.

But, in addition, if the bill before the Senate Energy Committee were to pass, some other important things would happen. The Department of Interior would be given authority to proceed with additional units. In addition, there are needs for the Department of Interior and the Department of Agriculture to cooperate in certain geographic areas. That is to say, some of the Department of Interior programs, if implemented, complement the Department of Agriculture's program. If we can deliver water more efficiently to the farm, then the onfarm efficiencies are better implemented.

So we are hopeful that ultimately both pieces of legislation will be moved through the two committees and will be passed this year.

I would like to comment that, in addition to the State cooperation and the cooperation that we feel between the Department of Interior and the Department of Agriculture, it should be noted that there is a significant grassroots cooperation that is developing here, because irrigators far upstream in the Grand Valley, for example, may move in and make irrigation practice reforms that have been on their farms for many decades, and the result will be that water users far downstream in central Arizona and southern California will benefit from their onfarm improvements.

In fact, we anticipate farmers in the upper basin, over the next two decades, may spend as much as $50 million on these programs and countless hours of their time so that the entire program may move ahead with efficiency.

In summary, let me say the seven Colorado River Basin States very much appreciate your interest in holding these hearings. In the short term, we offer the cooperation and support of the States and the Forum and its staff to assist the Congress as it considers this legislation. In the long term, we offer a State/Federal partnership in the implementation in this most important water quality control effort.

Thank you.

Senator WILSON. Thank you very much, Mr. Barnett.

I hope that your optimism will be vindicated, and I think it will be. I will not waste any time here. I assume everyone here is sufficiently impressed with the seriousness of the problem, and we hope this legislation will be a part of the solution. It is certainly a view held by a dozen or so Members of the Senate with whom I have cosponsored this legislation.

Let me ask you a few questions.

First of all, on the cost-sharing provisions, would you describe precisely the provisions of S. 1842 and H.R. 3903?

Mr. BARNETT. Those two bills do not include any cost sharing from State sources. The cost-sharing provision, as those two bills would authorize it, are between the Federal Government and the individual farmer.

The exact amount of cost sharing will be left to the decision of the Department of Agriculture in each and every unit, but some place perhaps between 25 and 35 percent of the cost of a given measure will be borne by the individual farmer and he will pay that money, if you wish, up front at the time that the reform on his farm is accomplished. The remainder will be paid by the Federal Government.

There are important cost-sharing aspects you may want to know about with respect to what the States have agreed to and are embodied in the bill that is before the Senate Energy Committee, S. 752. Would you like me to elaborate on that?

Senator WILSON. Would you do that briefly?

Mr. BARNETT. S. 752 would include cost sharing by the States on both Interior's and Agriculture's program. Currently, the Interior program is being repaid by 25 percent from the upper and lower basin funds. That State cost sharing was asked to be increased by testimony last September by the administration. The States have agreed to do that. The lower basin States have agreed that in the future, for future authorized programs and the Department of Agriculture programs, the Federal costs will be reimbursed from the lower basin fund by payment within the first year after expenditure.

The upper basin States decided they would prefer to pay over time with interest. Both of those payback provisions are in keeping with the request of the administration.

So now let me say that the cost sharing that I described for these two bills before you here, the farmer would participate in, would leave a Federal expenditure, and that Federal expenditure would be further reimbursed if S. 752 were enacted so that the States would participate in the amount of 25 percent of the residual in the cost sharing.

Senator WILSON. It is my understanding that the historical level of the Imperial Dam has been about 850 milligrams per liter.

How do you expect the implementation of this project will affect that level of salinity?

Mr. BARNETT. The agreement of the States was to maintain the salinity levels at the 1972 levels. We anticipate that as the States continue to develop their apportioned compact water supplies that the salinity levels would significantly increase. Perhaps 1,000 parts per million would be the salinity figure by the turn of the century. So the programs that are now being proposed to be authorized are a part of what is needed to take out the 2 million tons we think are needed on an annual basis in order to keep those levels at current salinity levels.

Senator WILSON. How many farmers have so far signed up?

Mr. BARNETT. I think you would have to return to the Department of Agriculture witnesses, although there is a report that you may want as part of the record, the 1982 USDA Annual Report. Discussion before you entered the room focused on the fact that, so far, the Department of Agriculture program has been, to paraphrase here, as a kind of initiatory program and an experimental program under the ACP authorization. There are several limitations fundingwise as to how they might proceed, so the program is just getting started. But, in every year, there have been more farmers signing up than funds available under the ACP program.

We anticipate that as we move to more areas and as the program could be streamlined by this legislation, there will be farmers willing to enter into the program to match the amount of funds that would be offered by the Federal Government.

As to the precise number of farmers, you may have to ask the Soil Conservation Service as to what program has been signing up in the last few years.

Senator WILSON. Are you anticipating an increase in the Federal funds?

Mr. BARNETT. Yes. Over the last 3 or 4 years, we have succeeded in getting the Appropriations Committee to earmark in the ACP program about $4 million a year. It started out with $1.5 million, but it has moved up to $4 million.

This year, the administration has a line item in anticipation of the passage of this legislation of $12.6 million. We see that level of funding necessary to make a significant inroad into the salinity problem.

Senator WILSON. Do you think that the $12.5 million item which is a line item encouraged by the administration will satisfy the demand in terms of farmer applicants or will we still find more farmers than money?

Mr. BARNETT. I anticipate as we move into other years when more money will be needed. More than the $12.5 million. The program, you might realize, moves out into various areas, and once the onfarm programs have been implemented, then the program tapers off as to the funds that are needed to keep it moving. There will be points when more than $12.5 million will be needed in a given year as the program moves ahead and the Department of Agriculture visualizes it and as the States support it.

Senator WILSON. What is envisioned in terms of the next 2 years and the next 5 years in terms of increased participation?

Mr. BARNETT. Let me refer you to some pages in the report. Let me correctly identify in the report. It is a 1982 USDA Annual Report, Colorado River Basin Salinity Control Program, pages 24 and 25. There is a funding level identified by the Department of Agriculture and the States support the need for that funding level.

Let me just indicate that in fiscal year 1984, the Department of Agriculture programs $12.5 million, as we discussed. The amount for fiscal year 1985 is $17.6 million, and for fiscal year 1986, $22.1, and then their projections continue on until the year 2000. You will note in that year it drops to $4.4 million.

Senator WILSON. Since you have already commented on the other legislation that is before the Energy Committee, since it is proceeding separately, I assume from your comments here and from your testimony here that while we hope that will make it through, even without that legislation to which this is implementary, I take it that you think that the onfarm program makes a significant enough contribution so that it is a worthy thing for the Congress to do in passing S. 752 which somehow did not make it through the process. Is that correct?

Mr. BARNETT. Very definitely.

Senator WILSON. I agree. Your statistics indicating how terrible the future will be makes that case very forceful.

The House version, H.R. 3903, as I understand it, would not amend the Colorado River Basin Salinity Control Act. Is that correct?

Mr. BARNETT. That is correct.

Senator WILSON. Does that create a problem?

Mr. BARNETT. No, Senator. I visualize either of the two vehicles before you will accomplish the onfarm program. The coordination and assist that that program would be given and the enhanced cost sharing by the passage of legislation like S. 752 could be, if you want to speculate, accomplished in another Congress. We hope it will not be, but you could pass either of the bills before you, and they accomplish the onfarm program.

As to which might pass, the one that modifies Public Law 93-320, or the one that totally stands alone, the States have no preference.

Senator WILSON. Will enactment of this program require the involvement of additional personnel at the current onfarm program sites?

Mr. BARNETT. It very definitely will. The Department of Agriculture got started in the Grand Valley and Uinta Basin, and the level of funding they had was in the neighborhood of $1 to $2 million in each of those areas, and they needed to bring in additional personnel. As they move to additional areas, they will also need additional personnel to implement the program, assist the farmers and monitor the impacts of the program so that we can document the salinity reductions that have occurred.

Senator WILSON. To your knowledge, would the targeting of SCS and other personnel to these salinity projects cause a hardship to any of the other SCS activities in Colorado or Utah?

Mr. BARNETT. Not to my knowledge The earmarking of $4 million, approximately, out of the ACP program for use in the Colorado River Basin did not have any impact on the other ACP dollars that were available to the State of Utah and the State of Colorado.

I suspect that because of the personnel ceilings and other matters that SCS and other agencies of the Department of Agriculture have been trying to shift people to accommodate this increased workload and they will have to do that in the future as well. I am not aware of any particular hardship that that has brought to other users.

Senator WILSON. Thank you very much. I appreciate your being here and I appreciate your testimony.

Next we will call forward a panel of farmers representing the basin States, Lloyd W. Allen of El Centro, CA; Garth Sorenson of Roosevelt, UT; John Porter of Montezuma County, Lewis, CO; and Don Schwindt, also of Montezuma County, Cortez, CO.

Would you gentlemen please come forward to the microphones, take a chair, and be comfortable.

First, let me welcome a constituent, Mr. Allen, with whom I visited yesterday. He is a distinguished businessman and farmer in the Imperial Valley in California, and he is currently serving as president of the California Beet Growers Association, and he has also been on the Imperial Valley Irrigation District Board of Directors and, as I understand, you must have left the room because you were named president in January of this year. Is that what happened?

Mr. ALLEN. You cannot be lucky all your life.

Senator WILSON. He is also an alternate delegate to the Colorado River Board Association.

Gentlemen, we would be delighted to hear from you. Maybe we will go in order in which we invited you forward. Then I have some questions I would like to address to you.

Mr. Allen, why do you not begin.

STATEMENT OF LLOYD W. ALLEN, EL CENTRO, CA

Mr. ALLEN. Thank you, Mr. Chairman.

I would like to summarize the written statement I submitted by emphasizing those points which indicate why we in the Imperial Valley are so concerned about the growing salinity level of the Colorado River.[1] We cannot drill wells, so if we lose access to water suitable for agriculture from the Colorado River, we lose everything. If the salinity of the water continues to increase, it is entirely possible that agricultural production in the Imperial Valley will be reduced substantially, if not discontinued entirely. If that happens, California and the Nation will lose an industry that generated $800 million in revenue last year. The country will lose one of its major sources of winter fruits and vegetables.

Half a million acres of the most productive farmland in the West could go to waste, and the American consumer, the entire country loses if the Imperial Valley goes out of production. We are the last to use Colorado River water before it flows across the border into Mexico.

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[1] See p. 42 for the prepared statement of Mr. Allen.

Much of the water we divert has already been used by many farms and communities north of us, and then it is returned to the river to be used further downstream. It is good the water is used for so many purposes benefiting so many people. All we ask is that those who use the water before it gets to us be encouraged to return those unused portions to a pure enough state to permit us to also at the end of the line use it beneficially.

Thank you very much.

Senator **Wilson**. Thank you very much.

Mr. Sorenson.

STATEMENT OF GARTH SORENSON, ROOSEVELT, UT

Mr. **Sorenson**. Thank you, Mr Chairman.

It is a pleasure to be here and to discuss some of the matters brought up concerning the salinity problems. I have submitted a written statement for the record. I would like to summarize it, if I can, in my own words.[1]

I am a member of the Roosevelt City Council, which is one of the assignments I have in the little community where I live. I am also one of the LDS Church leaders there, a schoolteacher, and I am trying to farm a few acres which are very salty because of the amount of salt that comes to the surface.

It seems like the majority of the farmers in the Uinta Basin have the philosophy of "Give me a lot of water and give it to me for a long time so I can flush my ground as fast as I can."

In 1980 when this salinity program became effective, I became very interested in it because of the low production on the farms and the very poor quality of farming that was going on. I knew that there was another way that that could be done. So, as the salinity program became effective, I got involved and put on a sprinkler system on an 80-acre field that I own. As I have watched this now the last 2 or 3 years, I have seen a great change in it. We are no longer washing the salt off of the soil back into the stream flows. We are retaining it in place through the sprinkler systems. We are taking it down below the root zone and retaining it there rather than taking it on further downstream.

Some of the situations we are up against are the rules by which the salinity money has been released through the ACP rules.

I lease a small farm and, under the present rules, we are going to be 18 to 20 years before we actually get the full program implemented on that particular farm, and that is because of the LTA process, only drawing the $3,500 over a 5-year period or $10,000 annually. So every 5 years we can resign and go back into another LTA.

On this one farm which I lease, which is about 400 acres, we figure it will be 18 to 20 years before we see it all implemented.

One of the canals which I draw the water from is paralleled in the neighborhood of 4 to 5 miles with onfarm application of the salinity program, but due to ACP rules, we are unable to get the ditch companies involved even though the ditch company is actually owned by each of the stockholders. There we are running water in an open dirt ditch parallel to onfarm applications.

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[1] See p. 44 for the prepared statement of Mr. Sorenson.

Had we had a little up-front assistance, I think we could have gotten the ditch company and the onfarm application together, and we would have had a total gravity flow sprinkler system installed there.

One of the other problems we have there in the basin is the Ute Indian Tribe which is only considered as one cooperator. There are about 1,500 members in that tribe. When the white settlers moved there back at the turn of the century, the idea that most of the Government people had at that time was to intermingle the white released ground and the Indian ground in small plots, one to another, and have them become neighbors.

Well, as I mentioned, the Indian tribe is only considered as one cooperator so, therefore, when you try to put together a pooling agreement, you are unable to do that because of the way their ground is situated in among the farms. We would like to push this legislation through and get it passed as quickly as possible so that we can get down to some onfarm applications.

Let me explain one situation I have where the ditch company does parallel one of the systems I have got in. It is about three-quarters of a mile. We figure we are losing about 25 percent of the water in that canal through seepage. Even though I had gone onfarm and made that farm installation of the system, the ditch company running past there with that open ditch subs up under the sprinkler system. So, in reality, we have not resolved the problem. We have done some correction on surface because of the way the ditch company operates there.

I would like to read my summary statement. I have mentioned some of the problems in getting this salt under control, but the picture is not all that bleak. There are a lot of positive factors that are taking place.

The enthusiasm of the farmers is generally quite good. The working relations between the farmers and the Government agencies have greatly improved. There have been a lot of great and real positive irrigation systems that have been put together, and through better water management and better practices, we are seeing a great improvement in production.

The ACS office does do a great job out there of making sure that the cost-share moneys are appropriately applied, and they are budgeted correctly according to the formula. But still the way those ACP rules work, they bog us down. We would like to see some assistance there so that we might be able to take care of things.

Senator WILSON. Thank you very much, Mr. Sorenson.

We will next hear from Mr. Porter.

STATEMENT OF JOHN PORTER, MONTEZUMA COUNTY, LEWIS, CO

Mr. PORTER. It is a pleasure to appear before you this morning. I have just been informed you may have some duties on the floor. I did not intend to take much time anyway so I will summarize this real fast.[1]

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[1] See p. 47 for the prepared statement of Mr. Porter.

I am a farmer. I am testifying on behalf of the farmers and landowners of the McElmo Creek Salinity Control Unit.

We have one unique thing I will testify to. Not only do we need the cooperation of the Department of Agriculture and the Department of the Interior for salinity control, but under the Department of the Interior's section 5 funds are being built, and we have a real opportunity to cooperate here, the two sides, the Department of the Interior and the Bureau of Reclamation, and the Department of Agriculture have two canals that flow down through the valley under the old irrigation system. We have one planned system under the Dolores Water Conservancy District that was to be a third canal. We think we can put this in and make one canal out of three, testifying to the fact that the onfarm program is the key. It is the thing that will give the farmers incentive to go along with the program and making the best use of our water and best managed water and help us all.

Thank you.

Senator WILSON. Thank you very much.

Mr. Schwindt.

STATEMENT OF DON SCHWINDT, MONTEZUMA COUNTY, CORTEZ, CO

Mr. SCHWINDT. It is a pleasure to be here today to have an opportunity to testify before you.

I am a farmer in the Montezuma Valley Irrigation System. I am president of the Montezuma Valley Irrigation Co. That system is where the McElmo Creek Unit is going to do its job.

The people in that area can sympathize with the total salinity problem on the river, but with the McElmo Creek Unit, there is local support as it has been presented to us, and it is the onfarm portion of this unit that get the support of the people in our area, and that support is there.

The farmers have used the SCSC staff, they are familiar with the SCSC, and they respect and cooperate with them.

I think the agricultural portion of that bill we are here testifying in support of today can do a lot of good for our Montezuma Valley Irrigation System.

I will just stop there and thank you for the opportunity of appearing here. If you have any questions, I will be pleased to try to answer them.

Senator WILSON. Thank you very much. We appreciate your testimony very much.

Let me just ask Mr. Allen, as a participant in the onfarm program, would you describe the similar projects you have similar to the projects in the Grand Valley and other areas? Are you knowledgeable about those?

Mr. ALLEN. Yes; we have participation from the local SCSA orders and bordering the canals inland which I own and we have participation with them in the concrete lining of the head ditch on my own farm that I own, and we have participation in underground drainage lines which leaches the salts out of the soil when we irrigate. The percolation takes about five times as much salt out of the water as we have been putting in. It started out at about the $1,000 for a unit, and now it is up to $3,500.

Senator WILSON. Let me ask you each to comment on this, if you choose to. This is a voluntary program.

The question I have—and Mr. Porter and Mr. Schwindt made some comments about this—one of the problems we had when we introduced this legislation was the question of how much education would have to be undertaken in order to persuade farmers to participate. I guess, on the other hand, there has been some concern that the farmers would feel pressured. I am curious as to what your experience has been among your fellow farmers as to the response then, and do you think the Department needs to undertake more education, or do you think it is adequate?

Mr. SORENSON. I had one neighbor I went to and asked him to cooperate with me when this first came up so that we could get into the $3,500 bracket up front. He continually said he did not think it would change much. Now that I have been in the program coming into the fourth season now, he was amazed that we were able to get rid of that salt as quickly as we did. As yet, he has not made any move.

Some of the other neighbors there quickly responded, and some of them said they didn't know why they did not get on the front end rather than waiting.

I had a neighbor come to me several years after I installed my sprinkler systems. He said I do not know what you have done, but you have dried up one of my creeks that kept my hay going.

I said it was better water management.

Mr. SCHWINDT. The McElmo Creek Unit is one that would be authorized. It was not one of the preauthorized ones.

If we can cooperate with the Dolores project, the reclamation can move all of the water higher so that we have the potential for a gravity pressurized system, then giving us the advantage of Mr. Barnett and the Department of Agriculture testified to, and Mr. Garth on holding that salt just below the root zone but not leaching it on down to the river, so you have a real potential and it takes cost sharing with the farmers to do that.

I cannot testify to the cap, but I do believe that the $3,500 per year would be a hindrance; $3,500 does not go very far any more in putting these onfarm systems in.

Senator WILSON. We have a vote coming up.

In the interest of time and anticipating that vote, and we have one more witness to be heard from, gentlemen, we may ask additional questions of you for the record and we would appreciate your responses.

With that, I think perhaps we will allow Mr. Boothby to come to the witness table.

Thank you, gentlemen, very much. We are very grateful for your taking the time and trouble to be here.

Charles L. Boothby, our next witness, is the executive secretary of the National Association of Conservation Districts, commonly known as NACD.

Welcome, Mr. Boothby.

STATEMENT OF CHARLES L. BOOTHBY, EXECUTIVE SECRETARY, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

Mr. BOOTHBY. Thank you, Senator Wilson.

I represent the National Association of Conservation Districts.

I represent 2,950 conservation districts in the 50 States, Puerto Rico, the Virgin Islands and the District of Columbia, and they are all very much interested in the Colorado River Basin and the salinity control program.

In the interest of time, I would like to have my statement submitted for the record.[1] There are only a few items I would like to highlight for you.

First of all, you mentioned earlier the matter of targeting. Let me assure you in nontargeted areas, our conservation districts are feeling the pinch. It is scheduled for 1985. We have about 900 conservation districts in targeted areas nationwide. That leaves 2,000 districts that are not in, and they are losing people to targeted areas.

Hopefully, by passage of this legislation, we can convince the Department of Agriculture and others to raise their personnel ceilings and to, therefore, relieve some of the pressures that targeting has caused.

Also in the bill there is a provision whereby the Secretary of Agriculture can make grants and cooperative agreements with local conservation districts and local governmental agencies. We feel that is an important provision which can help, if the money is there. If the people are not, they can contract with the conservation districts to hire the people to actually get the work done out on the farm.

We do have two amendments we would like to bring to your attention, and these are a reference to S. 1842.

One, we would add the following sentence:

> This program will be developed and implemented in cooperation with soil and water conservation districts established under State statutes and/or tribal laws wherever such lands are included within the boundaries of soil and water conservation districts.

I use soil and water conservation districts as a generic term. In California they are known as resource conservation districts, as you are well aware.

Second, we would add the following words on line 14 of page 3 which calls for the maintenance of the measures installed. Our proposal would call for those to be maintained "for the useful life," rather than leaving it indefinite.

Most of the measures installed have 25 years or more useful life, and we feel that it should be maintained for the useful life, but the landowner should not be requested to maintain them beyond their normal useful life.

With that, Senator, knowing that you are due on the floor soon, I will consider that the completion of my statement.

Senator WILSON. Thank you, Mr. Boothby. I think we can work in a couple of questions before the bell rings.

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[1] See p. 50 for the prepared statement of Mr. Boothby.

On your amendments, your first suggestion recommends that the program be developed and implemented in cooperation with the soil and water conservation districts established under State statutes.

How involved are these districts currently?

Mr. BOOTHBY. They are very much involved.

What I am suggesting is putting into the statute what is actually taking place at the present time. They are very much involved in the implementation of the program at present.

Senator WILSON. Has it been your experience that farmers were eager to sign up for a voluntary program like this?

Mr. BOOTHBY. Yes, sir, it is. If they can use less water more efficiently, most farmers are very much interested.

Senator WILSON. Do you think there has been an adequate educational job done as to what can be expected by the installation of these systems?

Mr. BOOTHBY. I think, for the most part, it is in place. I do not know that they have reached as many farmers as they need to, but certainly they know what needs to be done, part of this money we would anticipate would be used to increase the educational efforts through the extension service.

Senator WILSON. I think this has been a very useful session. As I indicated, we will take advantage of the willingness of some of our witnesses to respond to some additional questions for the record which have not yet been inserted.

I had an opening statement but I spared you all of that. It seems to me I would not be preaching to the choir, but I want to spare the record keeper. We will insert that in the record as well as the 1982 U. S. Department of Agriculture Annual Report of the Colorado River Basin Salinity Control Project.[1]

With that, I thank Mr. Boothby, and I want to thank all of the witnesses who have taken the time and trouble to travel here to testify before us today. We are most grateful for your interest and success in the programs and the ways in which it can be improved and perhaps reach its goals more effectively even earlier than we anticipated.

Does the staff have anything they wish to add? If not, this hearing is adjourned.

[Whereupon, at 11:25 a.m., the subcommittee adjourned, subject to the call of the Chair.]

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[1] See p. 32 for the prepared statement of Senator Wilson. The 1982 report from the USDA has been retained in the committee files.

APPENDIX

STATEMENT OF HON. WALTER D. HUDDLESTON A U.S. SENATOR FROM KENTUCKY

Mr. Chairman, the two bills before us today, S. 1842 and H.R. 3903, authorize the Secretary of Agriculture to establish a voluntary cooperative salinity control program to protect the water quality of the Colorado River.

The high level of salinity in the Colorado River has created problems in several western States. Many municipalities must apply expensive treatments to their water to make it drinkable, and farmers are experiencing crop damage caused by excess salt in the water.

Experts agree that improved irrigation management offers an effective approach toward controlling the salinity of the Colorado River. Both S. 1842 and H.R. 3903 provide incentives and assistance to farmers to improve their irrigation systems.

Although the cost of the proposals under consideration today appears to be modest, it should be noted that, for fiscal year 1985, the administration has proposed severe reductions in the budgets of other soil and water resource conservation programs that benefit the entire nation.

In addition, last week the Senate conferees on H.R. 4072 rejected--for budgetary reasons--a very modest conservation proposal that was offered by Congressman Ed Jones and supported by the House conferees.

Congressman Jones's conservation proposal consisted of three provisions. The first and most significant provision was what is referred to as the "sod-buster" initiative. Senators Jepsen and Armstrong have been staunch supporters of this proposal and enactment of this legislation has been identified as one of the Agriculture Committee's highest priorities during 1984. The Senate has already approved the legislation.

The second provision would have required the Department of Agriculture to conduct a feasibility study of a program under which farmers who voluntarily set aside cropland may qualify to have such cropland maintained in their normal acreage base for purposes of eligibility under future farm programs.

The third provision would have authorized a $25 million conservation reserve program under which highly erodible cropland could be put into long-term conservation uses.

I regret that budget constraints prevented the Senate conferees from accepting that proposal. However, I am pleased that Chairman Helms agreed to a conference with the House on Congressman Jones's conservation proposal as soon as the House completes action on its sod-buster bill. I understand the House Committee on Agriculture completed its markup on the sod-buster bill yesterday and agreed to report the legislation.

Both the Jones proposal and the legislation before us today address serious soil and water resource conservation problems. It is clear that a responsible and realistic commitment of resources is needed if we are to resolve any of our nation's soil and water resource problems.

I look forward to reviewing the testimony of today's witnesses.

STATEMENT OF HON. PETE WILSON
A U.S. SENATOR FROM CALIFORNIA

I want to thank you, Mr. Chairman, for your courtesy in holding this hearing on an issue of major importance to the seven States of the Colorado River Basin. Salinity pollution of the Colorado River has been a critical problem for more than two decades to households, agriculture and industry in the lower basin States of Arizona, California and Nevada forcing us to waste water and incur heavy costs to keep salt from limiting our agricultural production, damaging our industrial processes and adding expense to our home usage to avoid its deteriorating effects. While the Environmental Protection Agency has recommended that salinity not exceed 500 milligrams per liter for drinking water, those dependent on the Colorado for their water supplies have had salinity levels ranging from 675 to 900 milligrams over the past few years and in the absence of an effective salinity pollution control program, these levels are expected to increase by an additional 200 milligrams per liter.

That is why in 1974 Congress first authorized the Colorado River Basin Salinity Control Act, a program primarily directed at preventing natural salt sources such as salt springs and manmade structures such as unlined canals from adding salts to the River. As an adjunct to this program which was to be administered by the Department of the Interior, the Department of Agriculture was to undertake a program to improve on farm irrigation practices which also contributed to the salt load.

Our experience since that time has been that the agricultural programs have proven highly effective in limiting the amount of salt reaching the Colorado. More precise irrigation practices using less water limits the amount of seepage which leaches salts from the underground formation of the Upper Colorado saving water for other purposes and making for a more efficient farm. This also has the incidental benefits of limiting erosion and increasing water conservation, major issues in today's farming problems.

The 1974 Act authorized the Secretary of Agriculture to participate in this program using existing programs of the Soil Conservation Service, the Agricultural Stabilization and Conservation Service and the Extension Service. The initial work using these programs has been cost effective and well received by local farmers but as the programs were designed to develop conservation practices on a national basis, certain features limit their practicality for salinity control. Restrictions such as the dollar limit of $3,500 per year and not being able to work directly with water districts, Indian tribes and other institutions prevent the application of these improved practices to a large area within a limited period of time.

S. 1842 which I and the other 12 Senators have introduced resolves these problems. It has the support not only of the seven States but also the administration which desires to establish it as a separately funded program for the Department of Agriculture and for which $12,500,000 has been requested in the 1985 budget. This will not only avoid its competing with the general conservation programs for all 50 States, but give the Department direction to accellerate salinity control.

The State's agreed upon plan resolves salinity pollution of the river, has been accepted by the Environmental Protection Agency under its responsibilities under the Clean Water Act and this approach has been tested in the United States District Court for the District of Columbia and approved.

We believe we have fashioned a practical and very workable program to attack a serious pollution problem. I hope that your committee can undertake to help us resolve this problem and thank you again for your consideration. Our seven State region does not always agree on Colorado River issues but I can assure you that on this, we stand together.

Specifically, the Imperial Valley in California is severely impacted by the salinity problem. The Valley is a valuable source of agricultural commodities to national and world markets and the salinity problem will have an increasingly detrimental effect on the agriculture community if it is not controlled. I am pleased to introduce Mr. Lloyd Allen, President of the Imperial Irrigation District Board of Directors who will expound on some of the particular concerns of the District.

STATEMENT OF HON. ORRIN G. HATCH
A U.S. SENATOR FROM UTAH

Mr. Chairman, I appreciate the opportunity to testify in behalf of S. 1842 and H.R. 3903, and I would like to thank you for scheduling hearings to allow for the consideration of these bills.

As you know, the Colorado River is the lifeblood of the West. From its headwaters in Wyoming and Colorado, the River weaves a 1,400 mile long course and supports the agricultural, industrial, and municipal needs of more than 15 million residents of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. Many forms of wildlife also benefit from its existence.

The importance of maintaining the River's water quality has been acknowledged, discussed, and acted upon regionally and nationally, as well as internationally.

The 93rd Congress, in recognition of this fact, passed the 1974 Colorado River Salinity Control Act (P.L. 93-320), which assigned responsibility for implementing a salinity control program to several different agencies, one of which was the Department of Agriculture.

The United States has also signed a treaty with the Republic of Mexico guaranteeing both a specific quantity and quality of water to that nation.

In order to meet those treaty requirements, as well as the needs of U.S. citizens, it is apparent that some modifications of the original salinity control act are desirable, particularly as it related to the on farm salinity projects administered by the United States Department of Agriculture (USDA).

Currently USDA is operating the program under the guidelines of other conservation programs. For example, the ASCS and SCS have been supporting the Grand Valley and Uintah Basin projects since implemented in 1979 through the use of the ASCS Agricultural Conservation Program (ACP) and SCS technical assistance and river basin funds. This approach presents two major problems. The ACP program does not allow for cost-sharing or more than $3,500 per year for individuals, or $10,000 for a pooling agreement, nor will it allow USDA to enter into a contract with irrigation companies (which are important contributors to the salinity problem).

Enactment of S. 1842 and H.R. 3903 will allow the Secretary of Agriculture to conduct a coordinated, voluntary, on-farm program which is specifically designed for this purpose, and will alleviate the impediments I have mentioned, allowing for a more efficient allocation of resources devoted to this problem.

The necessity of operating a more efficient program is becoming more and more evident. In 1981, for example, salinity-related damage totaled approximately 100 million dollars; and, unless something is done to alleviate the trend, the figures could more than double by the year 2000.

For irrigators, the high salinity concentrations cause decreased crop yields, altered crop patterns, increased leaching and drainage requirements, as well as increased management costs.

Salinity also affects municipal water supplies, causing additional soap and detergent consumption, corrosion and scaling of metal waterpipes and heaters, acceleration of fabric wear, additional water softening costs, and--in extreme cases--abandonment of the water supply.

It is estimated that the high salt load which enters Lake Mead, for example, adversely affects more than ten million people and one million acres of irrigated farmland in the United States.

Mr. Chairman, as you can see, this is a serious problem. It is the unanimous opinion of the seven Colorado States that this legislation will go a long way toward addressing the salinity problem both in the United States and in Mexico.

Streamlining these programs, as well as providing for a line item appropriation, will allow for a more efficient approach to the salinity problem.

Again, I would like to thank you, Mr. Chairman, for scheduling hearings on this important matter.

STATEMENT OF HON. WILLIAM L. ARMSTRONG
A U.S. SENATOR FROM COLORADO

I would like to begin by thanking you, Mr. Chairman, for scheduling hearings for the consideration of S. 1842 and a companion bill passed by the House of Representatives, H.R. 3903. These bills are designed to advance the purposes of the Colorado River Basin salinity control program of technical and cost-sharing assistance for private land owners in order to improve on-farm water management practices. Other witnesses will testify on this legislation in considerable detail, so I will speak only briefly about the overall importance and purpose of S. 1842.

Fifteen million people in seven states from Wyoming to California depend upon the waters of the Colorado River to irrigate over 1.5 million acres of farmland, to quench the thirst of thriving metropolitan areas, to provide numerous and diverse recreational opportunities, and to generate substantial amounts of clean, renewable hydro-electric power. In short, the Colorado is one of the nation's most relied upon rivers.

It should therefore come as no surprise that the seven Colorado River Basin states are desirous of protecting the river's water quality for the present and future generations. The object of their mutual concern is salt loading--about 9 million tons per year, resulting in estimated economic damages, primarily in the Lower Basin states, of over $100 million per year. These damages are incurred primarily through reductions in the yields of irrigated crops and through damages to municipal and industrial water systems (e.g., by increased water treatment costs and corrosive damage to pipes and distribution systems).

The salt entering the river comes from both natural and man-made sources. The contribution from the latter comes in large part from irrigated agriculture. This is a consequence of the saline soils and sedimentary rocks in the basin, from which salts are leached as irrigation water percolates through the soil and runs off fields on its way back to the river.

Obviously, this is a serious problem in the southwestern states. But it is more than a regional problem. It is a serious national issue deserving of this committee's consideration, as other arid regions of the country also face the prospects of increasing salinity concentrations in their waters. Furthermore, the Colorado River salinity problem is an international one in that Mexico is greatly concerned about the quality of the waters which reach their border. This legislation will send a clear message to our important neighbor to the south that we value our special relationship with them and are determined to improve it further.

In recognition of the federal responsibility to address this water quality problem, Congress passed the Colorado River Basin Salinity Control Act in 1974 (P.L. 93-320). The Act authorized the Bureau of Reclamation to plan and construct salinity control units which would reduce salt loading of the river from both natural and man-made sources. The Bureau's activities have focused on salinity control measures such as canal and lateral lining and capture of saline springs before their waters reach the river.

Since the passage of the 1974 Act, it has become evident that improvements in on-farm irrigation practices are an efficient and cost-effective means of reducing salt loading to the Colorado River. However, the Department of Agricuture's existing authorities have proven to be inadequate for the job at hand. The Department needs specific authority tailored to the basin's salinity control needs.

S. 1842 will accomplish this by authorizing the Department of Agriculture to implement a voluntary, cooperative program of technical and cost-sharing assistance for private land owners in order to improve on-farm water management practices. From practical experience in the Grand Valley in Colorado, we know the importance of on-farm practices and the need for specific authorizing legislation to enable the Department to take steps to assist interested farmers in improving their irrigation practices.

Mr. Chairman, this measure, along with S. 752--the comprehensive salinity bill awaiting mark-up by the Senate Energy and Natural Resources Committee--is unanimously supported by the seven basin states of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. Both bills enjoy the unanimous support of the 14 Senators from those states, and for the record, I ask that the letter of March 16, 1984, from the 14 Senators to the Senate Energy and Natural Resources Committee, Water and Power Subcommittee Chairman Nickles, be made part of today's hearing record. A copy is attached to my written statement and has been provided to Committee staff.

In closing, Mr. Chairman, I would like to commend to you the testimony which you will subsequently hear from the states, acting through the Colorado River Basin Salinity Control Forum, and from farmers and irrigators in the basin who are the ones most directly involved in implementing on-farm measures to reduce salt loading. And again, thank you for the opportunity to testify in support of this legislation, which I believe merits your prompt and favorable consideration.

WILLIAM L. ARMSTRONG
COLORADO

United States Senate
WASHINGTON, D.C. 20510

March 16, 1984

The Honorable Don Nickles, Chairman
Subcommittee on Water and Power
Senate Committee on Energy & Natural Resources
Washington, DC 20510

Dear Mr. Chairman:

On behalf of the seven Colorado River Basin States, we introduced S. 752 to amend the Colorado River Basin Salinity Control Act of 1974. Again, we want to thank you for scheduling the hearing of this matter last September 15. The hearing proved fruitful, and we are pleased to report that the seven states through the Colorado River Salinity Control Forum and the Department of the Interior have worked out their disagreements. We ask that the recommended changes, which have been provided to Committee staff, be considered by the Committee as an amendment in the form of a substitute and ask that S. 752 be marked-up at your earliest convenience.

Salt pollution of the Colorado River is a pressing concern of ours. It impacts our states' ability to develop our water resources, to prevent the ever increasing damage to our irrigated agriculture, and to protect those who depend upon it for drinking water and commercial and industrial processes. Further, we are faced with Treaty committments on the Colorado River to provide quality water to the Republic of Mexico. We believe that our amendment in the form of a substitute would address these concerns and would accomplish the needed update of the 1974 Act.

On related legislation, S. 1842 and H.R. 3903, have been referred to the Senate Agriculture Committee. The attached letter has been sent to Chairman Jepsen from the cosponsors of S. 1842, requesting hearings. Those two bills concern the on-farm aspects of salinity control, which are also addressed in S. 752. We are hopeful that mark-up of S. 752 should be delayed awaiting action of the Senate Agriculture Committee. It is our hope, however, that H.R. 3903, as amended by the Senate Agriculture Committee, can be merged with S. 752 and returned to the House in conference.

Therefore, we respectfully ask that you take up consideration of S. 752 with our proposed amendments so that it can be acted upon during this Congress. We stand ready to support you and would appreciate your advice concerning it.

Sincerely,

William L. Armstrong
Pete Wilson
Orrin G. Hatch
Pete V. Domenici
Barry Goldwater
Chic Hecht
Alan K. Simpson

Paul Laxalt
Gary Hart
Jake Garn
Jeff Bingaman
Dennis DeConcini
Alan Cranston
Malcolm Wallop

STATEMENT OF HON. GARY HART
A U.S. SENATOR FROM COLORADO

Mr. Chairman, I appreciate the opportunity to present testimony on S. 1842, legislation authorizing the Secretary of Agriculture to develop and implement a coordinated agricultural program in the Colorado River Basin for salinity control purposes. I support enactment of this bill and urge your favorable and expeditious action on it.

The Colorado River is the water lifeline for over 17 million people in the seven Colorado River Basin states of Arizona, California, Colorado, New Mexico, Nevada, Utah and Wyoming. The River supplies water for a host of uses, generates hydroelectric power, and provides a wide range of recreational opportunities. It is no wonder, then, that the quality of the River's waters is of utmost concern to the seven basin states.

The single most important water quality problem is that of salt loading in the River. The salt comes from both natural and artifical sources. With respect to the latter, return flows and groundwater percolation from irrigated agriculture account for the large majority of salt leaching.

The Colorado River salinity problem was first addressed by Congress with passage of the Colorado River Basin Salinity Control Act of 1974 (P.L. 93-320). That Act called upon the Department of Interior to establish salinity control units and study and plan others. In the case of irrigated agriculture, Interior's efforts have been directed at improving off-farm delivery and distribution systems.

With the experience which has been gained in the first ten years of the salinity control program, it has become evident that on-farm measures which improve the efficiency of irrigation practices are a very cost effective means of reducing salt loading in the Colorado River. However, the existing, generic authorities of the Department of Agriculture for soil and water conservation have not proven adequate when applied to the specific situation facing the Colorado River Basin.

Because of this, a specific program to address the particular needs of salinity control in the Colorado River Basin must be authorized. The legislation before the Committee today (S. 1842) will do this by directing the Department of Agriculture to implement a voluntary, cooperative program of technical and cost-sharing assistance for private landowners in order to improve on-farm water management practices. The reductions in salt loading which can be accomplished through such a program are critical to the overall effort to maintain salinity concentrations in the lower mainstem of the Colorado River at the level occurring in 1972 while the Basin states continue to develop their compact apportioned waters.

In summary, I reiterate my support for the legislation and urge your favorable and expeditious consideration of it. In addition, I commend to you the testimony of the individual states and the Colorado River Basin Salinity Control Forum through which we act, whose statements will speak to many of the details concerning this bill.

Mr. Chairman, thank you for the opportunity to submit testimony on this critical legislation today. I look forward to working together in coming weeks.

STATEMENT OF THE STATE OF COLORADO

Introduction

This statement is presented on behalf of the State of Colorado's representatives to the Colorado River Basin Salinity Control Forum: Mr. David H. Getches, Executive Director of the

Colorado Department of Natural Resources; Dr. Robert Arnott, Assistant Director of the Colorado Department of Health; and Mr. David Robbins, former Colorado Deputy Attorney General now in private law practice and a member of the Colorado Water Conservation Board.

Summary of Statement

The State of Colorado favors the enactment of S. 1842, a bill authorizing the Secretary of Agriculture to develop and implement a coordinated agricultural conservation program in the Colorado River Basin for salinity control purposes. We refer you to the testimony presented on behalf of the seven Colorado River Basin states by the Colorado River Basin Salinity Control Forum, in which testimony we concur, for a detailed statement on the bill.

Testimony

Following the passage of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500), the seven states of the Colorado River basin organized the Colorado River Basin Salinity Control Forum (hereinafter referred to as the Forum) for the purposes of fostering a coordinated, basin-wide approach to the salinity problem in the Colorado River system. The objective of this coordinated, basin-wide approach is the maintenance of salinity in the lower mainstem of the Colorado River at the concentrations occurring in 1972 (expressed as numeric criteria) while the states continue to develop their compact apportioned waters. In order to maintain the numeric salinity criteria in the lower mainstem which have been adopted by the states and approved by the Environmental Protection Agency, it has been estimated that about 2.8 million tons of the approximately 10 million tons of salt which now enter the river on an average annual basis will need to be removed by the turn of the century.

In recognition of the federal role in and responsibility for a water quality problem which has both interstate and international dimensions, Congress passed the Colorado River Salinity Control Act (P.L. 93-320) in 1974. That act consists of two titles. Title I addresses the water quality programs which are needed to fulfill agreements between the United States and Mexico. Title II of the act deals with those measures upstream of Imperial Dam which will reduce salt loading to the river.

Since the passage of the act in 1974, ten years of experience have been gained with the completion of several planning studies, the acquisition of considerable base-line data and the initiation of two of the salinity control projects originally authorized by the Act. Based upon this experience, it has become evident that Title II of the act needs to be updated and expanded to reflect the newer information and greater understanding which we now have.

One of the major needs is to authorize the Department of Agriculture (USDA) to implement a voluntary, cooperative program of technical and cost-sharing assistance for private land owners in order to improve on-farm water management practices. S. 1842 would accomplish this.

Since the inception of the salinity control program in the Colorado River Basin, much experience has been gained with on-farm practices. It has become evident that the on-farm program is an efficient and cost effective means of substantially reducing salt loading to the Colorado River. It is important that this be recognized by authorizing a specific USDA program which can address the particular needs of salinity control in the Colorado River Basin. Existing authorities are not tailored to these needs.

In summary, we urge this committee's favorable attention to S. 1842.

STATEMENT OF HON. GEORGE B. HIGH, DIRECTOR OFFICE OF MEXICAN AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. Chairman, members of the Subcommittee, I am grateful for this opportunity to appear here today to express the Department of State's views on S. 1842 and H.R. 3903. I will comment on the relationship of foreign policy to these bills, on the current state of our relations with Mexico, and on the views of the United States Section of the International Boundary and Water Commission (IBWC). I am accompanied by Mr. Paul E. Storing, Special Assistant of the U.S. Section of the IBWC.

This administration places the greatest value on developing close and friendly relations with our nearest neighbors. High level contacts between leaders of Mexico and the United States have been intense. President de la Madrid and President Reagan met last at La Paz, Baja California Sur, in August 1984 and we expect they will meet again soon here in Washington.

As a result of this intensive attention, our relationship with Mexico is good. Three years ago, Mexico jumped from our fifth to third largest trading partner. Bilateral trade was 27 billion dollars in 1982 and about 25 billion dollars in 1983. If it weren't for Mexico's continuing economic problems, the figures for 1982 and 1983 would, undoubtedly, have been much higher. We purchase almost 60 percent of Mexico's exports. Mexico, during good times, purchases about 6 percent of our exports. Mexico sells us about 50 percent of all the oil it exports. In 1983 nearly a quarter of our crude oil imports came from Mexico. That country is now our largest foreign supplier of oil.

While we have had differences with Mexico on some issues--trade, for example, and precisely how to obtain peace in Central America, we have maintained an active and useful dialogue to work on these issues and to seek new opportunities for cooperation.

When Mexico's economic difficulties reached a peak in August 1982, the United States was of assistance to its neighbor in many ways. We made an advance payment on petroleum purchases, provided financial assistance, and helped secure loans for Mexico. We did this because we want and need Mexico to be a strong, free and prosperous neighbor.

In the same spirit of cooperation and in recognition of our two countries' interdependence, we worked together with Mexico just over a decade ago and resolved the serious bilateral problem of salinity of the Colorado River as it flows into Mexico. I agree with the statement of the United States Commissioner to the IBWC in his 1979 testimony in an appropriation hearing on Title I of the 1974 Colorado River Basin Salinity Control Act, that "...the salinity issue with Mexico was the most serious issue to have beset our relations with that country in more than three decades."

The Department and the U.S. Section of the IBWC understand, Mr. Chairman, that S. 1842 and H.R. 3903 would authorize the Secretary of Agriculture to develop and implement a coordinated agricultural conservation program in the Colorado River Basin. In the case of S. 1842 this would be done through amendment to the Colorado River Basin Salinity Control Act. H.R. 3903 proposes to authorize the program by separate, self-standing legislation. The objective of the program is to enhance the supply and quality of water in the Colorado River for delivery to downstream users.

Let me note at the outset that the Federal Government's participation in the Title II program is not required for the United States to meet its commitments under the Agreement with Mexico of August 30, 1973 for a solution to the international problem of the salinity of the lower Colorado River. At the hearings held prior to the approval of the Colorado River Basin Salinity Control Act, the Department and the U.S. Section supported Title I--the programs downstream from Imperial Dam--to enable the United States to comply with its obligations to Mexico under the 1973 Colorado River Salinity Agreement.

Mr. Chairman, we agree with the intent of these bills. However, neither the Department of State nor the U.S. Section is qualified or empowered to comment on the detailed matters of domestic concern contained in these bills, such as the manner of procedures, monitoring, and cost sharing proposed to achieve the bills' objectives. On those matters we defer to the Department of Agriculture and the Department of the Interior.

STATEMENT OF LLOYD W. ALLEN, PRESIDENT IMPERIAL IRRIGATION DISTRICT, EL CENTRO, CALIFORNIA

My name is Lloyd Allen. I am the President of the Board of Directors of the Imperial Irrigation District, headquartered in El Centro, California. I am a farmer growing sugar beets, wheat, cotton, and other crops in the Imperial Valley and am thoroughly familiar with the Lower Colorado River Basin's agricultural problems and concerns. In addition, I am an appointed alternate member of the Colorado River Board of California from Imperial Irrigation District.

Agricultural development in the Lower Colorado River Basin extends back to the late 1800's and early 1900's. The initial deliveries of Colorado River water to Imperial Valley were made in 1901 via canal works that crossed into Mexico. The early river diversion and canal works were later replaced by Imperial Dam, completed in 1938, and the 80-mile All-American Canal and its desilting headworks completed in 1942. Imperial Dam is the last diversion point on the Colorado River in the United States.

The Colorado River is the sole source of water supply for Imperial Valley and the All-American Canal is considered as its "lifeline", delivering between 2.5 to 2.9 million acre-feet of water annually to the Valley for irrigated agriculture and municipal and industrial purposes, making the District the largest water user on the River.

Since the salinity of the River at Imperial Dam is currently about 800 ppm, we import about 3 million tons of salt into the Valley every year.

The District operates and maintains over 1600 miles of canals, and 1400 miles of drains, both being mainly gravity systems. In fact, the drop in elevation along the All-American Canal of over 150 feet is used by the District to generate hydroelectric power. The District is vitally concerned about the preservation of the quantity and non-degradation of quality of its sole source of supply.

The Imperial Irrigation District encompasses over 1 million acres with 500,000 acres of cultivated lands. It is a significant source of high quality winter and early spring vegetables and fruits for the national and world markets. In 1983, its crops and livestock operations, considered among the largest in the world, had a value of $800 million. Many of the specialty crops grown in Imperial Valley are sensitive to salt in the soil and water. In order to continue to provide the national and world markets with irreplaceable low-cost food and fiber, the ever-increasing salinity of the Colorado River must be controlled.

Increased salinity reduces the productivity of the land, giving smaller yields per acre or forcing a shift to less profitable salt-tolerant crops. Increasing salinity also contributes to less efficient use of water by requiring increased application for leaching salt from the soil. In areas of limited water supply such as the arid southwest, this eventually requires taking land out of production in order to provide sufficient leaching water for the remaining acreage. Farmers in Imperial Valley and other agricultural acres in the Colorado River area thus far, through improved water and soil management practices, have generally been able to maintain the productivity of their lands; however, projected salinity increases in Colorado River water without salinity control pose a serious threat to the existence of a major food producing area in the United States.

In Imperial Valley, salt balance of soils is maintained by leaching salts beyond the root zone either by applying more water than the crop uses or by idling the land and ponding water on the surface and, then, carrying the dissolved salts away through an efficient underground tile drainage system. Farmers today are using about 1/2 acre-foot more water per acre for leaching than they did in 1950. Increasing salinity has also required closer placement of tile drains. Tile spacing in Imperial Valley ranges from about 50 feet in silty clay soils to about 300 feet in sandy soils. Over 28,000 miles of tile drains have been installed in the Valley. Leaching and tiling related expenditures are significant contributors to the farmers' operating costs.

Other onfarm management practices used in the Valley to achieve and maintain a favorable salt balance include irrigation water management, special planting and bedding methods for row crops, and laser land leveling. The farmers in Imperial Valley, with assistance of engineers, scientists, and soil conservationists, have become experts in producing crops on desert soil and water management practices for maintenance of salt balance. These are probably the most important functions for economic success or failure in the agricultural endeavor in the District.

I, along with other farmers in the agricultural service areas of the Colorado River, have participated in the implementation of onfarm management of the type proposed in this legislation, and I can tell you that these practices are a cost-effective means for improved water management and salinity control.

Senate Bill S. 1842 amends the Colorado River Basin Salinity Control Act of 1974, Public Law 93-320, and authorizes additional measures, including onfarm management for salinity control, to assure accomplishment of the Act. These measures offer a basin-wide cost-effective and efficient program to control the increasing salinity of the Colorado River. The District supports the statement submitted to the Committee by the Colorado River Basin Salinity Control Forum on behalf of the Basin states. I, on behalf of the farmers of Imperial Valley and the Lower Basin and on behalf of the Imperial Irrigation District, urge the passage of S. 1842.

I thank the Committee for the opportunity to present this statement.

STATEMENT OF GARTH SORENSEN, ROOSEVELT, UTAH

Mr. Chairman, I am Garth Sorensen; I am a cooperator with the Uintah Basin Soil Conservation District. I live in Roosevelt, Utah.

I own a 63 acre farm. I also lease four other farms that total 842 acres. In addition, I bale and haul alfalfa on an additional 285 acres. So I farm a total of 1,190 acres.

Now, in order to make a living I also teach auto mechanics 8 hours a day for the Vocational Center and at night teach auto classes for the Adult Vocational Education Program.

I serve in a leadership position for about 3,000 members of the LDS Church and I am a member of the Roosevelt City Council. (So I don't have much time to worry about bad irrigation systems or poor agricultural practices.)

I was raised on a farm in Central Utah where agriculture became a part of my life. (I still own ground in Scipio, Utah.) When we moved to the Uintah Basin, I was surprised and disturbed by the amount of agricultural ground that had gone saline. I had seen some salty ground before in my younger days on the farm and had watched my dad successfully control the salt by putting on only the water needed for the crops.

I found out that the soil in the Uintah Basin is mostly underlaid with shale, which is full of salt. I then realized that the application of irrigation water was extremely critical. Too much water was worse than not enough and overwatering seemed to be the practice of most of the farmers.

When I bought my farm it was with visions of what it could be rather than what it was. May I briefly describe the situation. There were four ditches meandering across the 63 acre farm. The uneven ground had high spots which were white because the irrigation water could not flow over them and wash away the salt. The low spots were boggy and would only grow salt grass or tamarack or nothing. The government canal and ditches subbed water that turned up when it came up in my fields. I couln't drive the truck over most of the ground because it stayed so wet. That first summer I harvested two pickup loads of barley.

I went looking for ideas and ended up talking to the Soil Conservation Service. I learned more about irrigation water management but found it hard to follow on my farm. In 1980, the first year of the salinity control program, I applied for cost sharing. The SCS planner and I went over the alternatives for getting the salt down and at the same time not washing the salt through the soil back into the stream system. I chose to install a sprinkler system. The SCS helped me learn how to manage my salt problem and improve my farm.

I now raise as much on one acre as I did the first year on my whole farm. I can drive my truck anywhere I need to go and none of my farm is white or unproductive because of salinity. I feel we are successfully controlling the salinity problem.

My neighbor, who I tried to talk into the program but couldn't, said it would never work. He is still having a hard time believing what he sees. His land is as white as it ever was, but I think he'll come around. A couple of my neighbors who are in the salinity program say they don't know why they ever waited so long before signing up. They rave about their sprinkler systems and what has happened to their farms because of better water management.

But there are some problems in the program that I think are slowing things down.

1. One is the problem of requiring a neighbor to be in the program before you can receive a $10,000 a year cost share payment. (This is called a pooling agreement.) If none of your neighbors participate, you are only allowed $3,500 a year, which doesn't go very far towards an irrigation system. Some of the farmers are a little reluctant to participate because they think they are too old to start something new, or financially the time is not right, or they are Ute Indians, or they lease Ute ground and the tribe so far has not participated because the tribe is considered one single cooperator for the entire basin at this time.

2. Another problem is the $10,000 yearly limit.

If you were putting in a sprinkler system and needed to use the full cost share amount of $35,000 it would take you four years to complete the project. Only $10,000 can be used in one year. Now while a fourth of the sprinkler system is being installed the rest of your farm has to be flooded through the old open ditches or not farmed at all. This pretty well disrupts the farming operation and puts off good water management for at least four years.

If the $10,000 yearly limit were removed, the $35,000 could be used in one year, then better management and salt reduction could happen a lot quicker.

3. A neighbor of mine is right in the middle of this next problem which is the limitation of $35,000 cost share allowance per long term agreement.

His farm is a little over 400 acres. $35,000, plus the farmer's share, puts a system on about 80 to 90 acres. He is now on his second LTA. His sprinkler system is going in at the rate of $10,000 per year with the $35,000 per LTA. So this will take him 18 years and 5 LTA's to finally complete the sprinkler system for his 400 acre farm. (It takes at least 400 acres to support a full time farmer.)

Why not cost share at the rate at which he can meet his financial obligation and install the entire irrigation system as rapidly as possible?

4. Another big problem in my area is that this cost share money cannot be used by the Irrigation Canal Company even through the only share holders in the canal companies are the farmers along that canal.

I am on a 4 mile stretch of canal system that has on-farm systems running parallel to the entire length of the Irrigation Canal Company ditch. But the pipe systems are only used for on-farm use. It starts and stops at each farm boundary. Each pipe system was put in by each individual farmer for his own system but at different times during the past 4 years.

If the Canal Company could have cost shared and installed a complete pipeline, most of us would now have a gravity sprinkler system rather than the expense of pumping. Also, with a complete pipeline, the Canal Company would be saving 25 percent of its water which is now being lost through seepage. This seepage water from the Canal Company's ditch contributes to the saltiness of the ground wherever it comes up.

5. This next problem concerns the Ute Indian land and the government canals. When the reservation was opened up to White settlement, the Indian ground was bordered next to farmland which was released to the Whites. These 40 acre pieces turn up everywhere. They wanted the tribe members to be neighbors to White settlers. The tribe's canal system which delivers irrigation water to White and Indian ground adds to our salinity problems. The problem is the Utes are not participating in the salinity control program. They need to be in the program if we are going to meet our goals of controlling salinity.

I have mentioned problems that I think are slowing down the process of getting the salt under control but the picture is not all that bleak, there are a lot of positive factors. The enthusiasm of the farms is generally good. The working relationship between the farmers and the government agencies is good. There have been a lot of good irrigation systems put in and a lot of good management is now being practiced. However, I think the process can be improved. The ASCS office is doing a great job of disbursing the cost share money according to present policy. But wnen they use the national ACP program regulations this accelerated salinity program seems bogged down. I feel that this legislation S. 1842 and H.R. 3903 will smooth out the policy problems so that we can concentrate on the salinity problem.

I encourage you to expedite this legislation.

Thank you.

STATEMENT OF JOHN PORTER, MONTEZUMA COUNTY, LEWIS, COLORADO

Introduction

I am testifying today as a farmer, and also on behalf of the Dolores Water Conservancy District. In addition I would like to request your permission, Mr. Chairman, to include into the record written testimony from other farmers and farm groups in the Colorado River drainage area of Colorado. Specifically that of the Montezuma Valley Irrigation Company (MVIC), who are directly involved in the McElmo Creek Salinity Control unit. In that regard, it is my pleasure to introduce to you, Mr. Don Schwindt, President of the MVIC Board. He is also a Director of the Board of the Dolores Water Conservancy District.

The Montezuma Valley and McElmo Creek are located in Southwest Colorado, where both sides of my family homesteaded and began irrigating around the turn of the century. This land has been irrigated since 1885 by diverting water from the Dolores River Basin. Mancos shale underlies one half of the valley, thus through natural drainage and irrigation return flows, 119,000 tons of salt are transported into the river system annually.

Summary of Statement

The water users of the McElmo Creek drainage support and urge you to enact S. 1842.

In addition to the obvious reasons for instituting an "on farm" salinity control program in the Montezuma Valley, I would like to bring your attention to two other reasons for doing so; a: S. 752 provides for the Bureau of Reclamation to make some major changes in the MVIC delivery system. S. 1842 is necessary to fully utilize those changes for the benefit of reduced salinity; and b: The real benefit to the local farmer in the Montezuma Valley is this portion of the legislation.

Testimony

This committee has received testimony from J. William McDonald, Director of the Colorado Water Conservation Board, outlining the need for and the benefits of S. 1842. We in Southwest Colorado concur with and wholeheartedly support that testimony.

To put S. 1842 into its proper perspective, as it relates to the McElmo Salinity Control unit, I need to provide a little background. The Towaoc Canal was to be the delivery system for the Dolores Reclamation Project water to the Ute Mountain Ute Indian Tribe. The plan now is to combine that proposed canal with the present MVIC Highline Canal, as part of the Dolores Project. H.R. 2790 and the McElmo Salinity Project provide for the elimination of the Rocky Ford Ditch, which is a parallel delivery system. The Rocky Ford area can then be served by gravity pressurized underground laterals, from the Highline Canal.

With the above facilities in place, and the incentives of an "on farm" program about 5,000 acres of the saltiest, most poorly drained land in the valley can benefit. That is why S. 1842, the "on farm" portion of the salinity legislation, is so vital to the overall success of reducing salt to the river system and gaining the support of the local farmers for the salinity program.

Conclusion

On behalf of the Dolores Water Conservancy District, the Montezuma Valley Irrigation Company, the landowners, and the farmers affected by the McElmo Creek Unit of the Colorado River Salinity Control Program, we urge the enactment of S. 1842.

STATEMENT OF DON SCHWINDT, REPRESENTING MONTEZUMA VALLEY IRRIGATION COMPANY SYSTEM, MONTEZUMA COUNTY, CORTEZ, COLORADO

Background

The testimony submitted today in support of the "Colorado River Basin Salinity Control Act" is presented by Don Schwindt on behalf of the Montezuma Valley Irrigation Company, the Dolores Water Conservancy District and farmers affected by the proposed McElmo Creek Unit. I am a full time irrigated farmer, farming approximately 350 acres served by the Montezuma Valley Irrigation Company (MVIC) in southwestern Colorado. I am President of the Board of Directors of MVIC, a private irrigation shareholder company, which serves over 30,000 acres by diverting water from the Dolores River into the Montezuma Valley. I am also a Board member of the Dolores Water Conservancy District, a Board that will administer water from the Dolores River Reclamation Project, a participating project of the Colorado River Storage Project. The Dolores Project will provide water for close to 28,000 acres north and west of the MVIC system, 7500 acrea of Ute Mountain Ute land south and west of the MVIC system and supplemental water for the MVIC system.

My testimony is submitted on behalf of the water users in our area. We are interested in H.R. 2790 because of the authorization for construction, in that bill, of the McElmo Creek Unit. The McElmo Creek Unit is primarily concerned with reducing salinity contribution to McElmo Creek through both canal lining and "on farm" irrigation programs within the MVIC system. Approximately half of the lands served by the MVIC are soils derived from Mancos shale, which contribute considerable amounts of salt to the Colorado River through McElmo Creek.

Summary

The primary objective of the Colorado River Basin Salinity Control act is to improve downstream water quality. In order for there to be broad support for the Salinity Control Act in the Montezuma Valley area, the act must also lead to the improvement of the agricultural economy in the area. In order for both of these objectives to be met, it is vital that the Department of Agriculture be a part of the McElmo Creek Unit with an "on farm" program. Through interagency cooperation the Montezuma Valley can be studied and dealt with as a unit. Both objectives, improvement in downstream water quality and improvement of the Montezuma Valley agricultural economy, can be much more fully attained through looking at the area as a unit, from the farms back to the diversions at the Dolores River.

Testimony

Canal lining alone is attacking less than one half of the salinity problem. Broad support in the Montezuma Valley will come from the "on farm" part of the McElmo Creek Unit. Improved irrigation practices must go hand in hand with reduction of seepage losses through lining of canals to maximize the salinity reduction.

There should be no arbitrary division between the "on farm" part of the program and the canal lining part. The topography is quite varied within the Montezuma Valley area. This lends itself to the creation of gravity pressurized pipelines for sprinkler irrigation. With energy/pumping costs escalating, the availability of gravity pressure would be a great enhancement for "on farm" participation. Interagency cooperation on studies to determine all feasible pipeline alternatives within the MVIC distribution system leading to the farms can begin, rather than having the USBR look only at the canals and the SCS look only at the farms.

Conclusion

In summary, without an "on farm" part of the McElmo Creek Unit of the Salinity Control Act there would be no heart to the program. To most fully maximize salinity reduction, the Montezuma Valley area needs to be looked at as a unit, with cooperation between the Departments of Agriculture and Interior. Good farm land is now gradually salting out. Speed in enactment and implementation of S. 1842 can hopefully begin to reverse this process. Thank you.

STATEMENT OF CHARLES L. BOOTHBY, EXECUTIVE SECRETARY, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

Mr. Chairman and Members of the Subcommittee:

I am Charles L. Boothby, Executive Secretary of the National Association of Conservation Districts, commonly known as NACD. We represent the 2950 conservation districts in the 50 states, Puerto Rico, the Virgin Islands and the District of Columbia and the 17,000 conservation district officials which serve on the local boards that govern the day-to-day activities of those districts.

Conservation districts are established under state enabling legislation to develop and carry out land and water conservation programs at the local level. Districts coordinate the work of various federal and state agencies in providing assistance to landowners. They are presently providing services to over 2 1/2 million landowners and operators.

Our association is dedicated to encouraging the adoption of conservation methods of farming to protect the long-term productivity of the land. We believe special concern is needed for the future of the irrigated lands of the western United States, because of their particular problems, and also because of their significant contribution to the national agricultural industry.

Irrigated lands produced 27 percent of the value of farm crops harvested in the United States in 1980, on only 12 percent of the harvested acres, so they are vital if this nation is to retain its high level of farm output.

Conservation districts have been supportive of salinity control efforts through on-farm water management practices for many years. This work is both effective and cost-efficient. We think the work that has been carried out under PL 93-320, the Colorado River Basin Salinity Control Act of 1974, has been a good example. This work has been supplemented by the targeting of funds within the Agricultural Conservation Program, the Conservation Operations Program of SCS, and ARS research. The resulting projects have demonstrated that a concentrated USDA effort can be very effective in addressing the salinity problem.

One of the main features of these projects has been the search for an institutional arrangement that would facilitate rapid acceptance of new irrigation systems and techniques by farmers. This has involved the active participation of the local conservation districts.

The basic conclusion that we draw from this experience is that locally-operated projects, using the time-tested approach of federal cost-sharing and technical assistance delivered through conservation districts, is an effective way to get improved irrigation water management, lower salinity in the receiving waters, and improve efficiency and productivity on the land.

Based on this experience, we support passage of S. 1842. We think there are some minor amendments that could strengthen the bill and make it more effective, and we have included them for your consideration.

The on-farm water management work that needs to be done is very different from the other salinity control work in the Colorado River Salinity Control effort, and we support separating it out as an identifiable program under the Secretary of Agriculture. This would give the program stature, with separate funding, rather than existing as it does today, as a drain on other cost-share programs.

In the budget for FY 84, this Administration proposed to separate the Colorado River Salinity Control Program from the existing programs under which they have been funded, namely ACP and Conservation Operations. We supported this proposal. Unfortunately, the Administration did not prepare a legislative proposal to implement it in time for the Appropriations Committees to act on it for FY 84. It has been proposed again for FY 85. Hopefully, this legislation can be passed in time for the Appropriations Committees to consider.

The success of conservation programs conducted through long-term contracts with private landowners and operators has been proven. The Great Plains Program under the leadership of SCS is a prime example. Further, separating the program out from ACP would eliminate the present $3500 per-farm payment limitation that has limited the usefulness of the ACP in salinity control.

We would offer two amendments to the bill which are primarily technical amendments:

a) On page 2, line 10, add the following sentence at the end of the paragraph:

This program will be developed and implemented in cooperation with soil and water conservation districts established under state statutes and/or tribal laws wherever such lands are included within the boundaries of soil and water conservation districts.

This amendment would assure that the type of administrative structure proven so effective in past work would be an integral part of this new program.

We commend to you the provision in (b)(4) to authorize the use of grants in implementation of this program. This provision would prevent problems whenever federal personnel ceilings might preclude implementation of the on-farm program unless personnel are diverted from other areas of the country. This proposed provision would give USDA an alternative in management that we feel is more acceptable than adding more federal personnel to the payroll.

Additionally, we would recommend that the following words be added at the end of line 14, page 3: for the useful life. This would clarify this provision to be sure that landowners are not required to operate and maintain measures forever.

Mr. Chairman, we commend the Committee on its concerns with the serious problems facing irrigated agriculture in the semi-arid and arid regions of the country. We are also pleased that you recognize this as a problem which must be solved at the local level, through a specific program effort. The nation faces many serious conservation problems today, led by a growing soil erosion problem on our rainfed croplands, and an impending Dust Bowl caused by the plow-out of marginal lands in the Great Plains. The traditional soil and water conservation programs of the Department of Agriculture have been allowed to shrink until they have less buying power today than at any time in the past three decades. Under those conditions, problems of a special or regional nature, such as the salinity control problem, will simply go unaddressed unless a special effort is made on them. We think S. 1842 offers such an effort, and urge its speedy adoption.

STATEMENT OF JACK A. BARNETT, EXECUTIVE DIRECTOR, COLORADO RIVER BASIN SALINITY CONTROL FORUM

More than 15 million residents of the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming are served to one degree or another by the Colorado River. They live in the most arid region of the United States and rely heavily upon the Colorado River for municipal, industrial and irrigation water as well as for hydro power and recreation. Our neighbors south of the border in the Republic of Mexico also depend on the waters of the Colorado to meet much of their needs.

Throughout most of this century the states and water interests of the Colorado River Basin have been working with the Congress, the federal Administration, the judiciary, and state legislatures to establish what has become known as "the Law of the River". Through compacts, agreements, legislation, litigation, and a treaty with the Republic of Mexico, a political miracle has been accomplished--apportionment of the waters of the Colorado River has been achieved.

During the last two decades, issues involving the quality of this important resource have come to the fore and have been brought to the negotiating tables. The seven Colorado River Basin states were quick to realize that the salinity of the River and its control are basin-wide problems with national and international overtones that demand their close cooperation and collaboration and the assistance of the federal government. In the 60's, the rising salinity of the River provoked protests from the Republic of Mexico and resulted in further agreements with that nation. In 1974, the Colorado River Salinity Control Act (P.L. 93-320) was carefully formulated by the states and Congress so that water quality matters could be appropriately addressed in the context of the existing "Law of the River".

Title I of that Act addresses the salinity control programs needed to implement the agreements between the United States and Mexico. Title II of the Act deals with salinity concerns in the United States above Imperial Dam. The Congress authorized and directed the Secretary of the Interior to take the lead in implementing the federal portion of the salinity control effort. There were four Department of the Interior salinity control units authorized by the Congress in Title II of the 1974 Act. Additional units were identified for further investigation by the Department of the Interior. The Act further directs that the Secretary of Agriculture work cooperatively with the Secretary of Interior in searching for ways to control the salinity of the Colorado River.

In recognition of the fact that the quality of the Colorado River is a basin-wide problem that demands the coordinated attention of all Basin states, the governors of the seven states created the Colorado River Basin Salinity Control Forum. The names of the current gubernatorial appointees are found on the letterhead that is used as the first page of this testimony. (Bruce Babbitt, Arizona; George Deukmejian, California; Richard D. Lamm, Colorado; Richard Bryan, Nevada; Toney Anaya, New

Mexico; Scott M. Matheson, Utah; and, Ed Herschler, Wyoming) They are charged with finding the most effective means of controlling the salinity of the River. The alliances and agreements that have been forged through the action of the Forum are truly unique and remarkable considering the needs and responsibilities of the seven states and the two nations.

The Bureau of Reclamation advises that the current level of salts in the flows of the Colorado River result in annual damages to U.S. water users of $120 million. If salinity control measures are not implemented by the year 2010 to control the increase in salinity that will result from man's increased uses of the River, the level of damages will almost double to $238 million per year.

The salinity objectives agreed to by the seven states and the Environmental Protection Agency on the Colorado River call for the maintenance of salinity levels below Hoover Dam, below Parker Dam, and at Imperial Dam at 1972 concentrations while the states continue to develop their compact apportioned water supplies. The allowable salt concentrations range from 723 mg/L at Hoover Dam to 879 mg/L at Imperial Dam, measured as average annual flow-weighted total dissolved solids concentrations. If salinity control measures are not implemented, it is estimated that the concentration at Imperial Dam would exceed 1,040 mg/L shortly after the turn of the century. The levels of salinity concentration that would occur without effective salinity control are clearly not acceptable.

Approximately 9 million tons of salt reach Lake Mead each year, some from natural causes and some from the actions of man, including irrigation agricultural activities. It has been determined that shortly after the turn of the century up to 2 million tons of salt must be removed or prevented from entering the River annually if the downstream numeric criteria are to be met. This is a tall order. The seven Colorado River Basin states, working as the Colorado River Basin Salinity Control Forum have determined that, after almost a decade of efforts to control salinity under the authorizations of the 1974 Act (P.L. 93-320), that additional congressional authority is needed so that agriculture strategies can be implemented.

Over the last two years, the Basin states have developed amendatory legislation and are now in unanimous agreement as to the modifications that need to be made. They include provisions that will give needed authorizations to both the Department of Agriculture and the Department of the Interior.

Four bills have been introduced into this Congress to allow for the needed amendments to the Salinity Control Act. S. 752 encompasses all of the requested changes to both the Department of Interior and the Department of Agriculture programs and has been cosponsored by all fourteen Colorado River Basin senators. That bill was the subject of hearings held by the Senate Energy and Natural Resources Committee in September of 1983. We anticipate that Senate Energy and Natural Resources Committee will be marking up the legislation in the very near future. S. 1841 is the subject of this hearing and it includes all of the amendments that the Basin states feel need to be made with respect to authorities for the implementation of the agricultural strategies. H.R. 2790 is very similar to S. 752 and was the subject of House hearings this week. We are hopeful that the House will soon be moving that legislation to the floor. H.R. 3903 is very similar to S. 1842 it was passed by the House last year and is also a subject of this hearing.

We have examined both S. 1842 and H.R. 3903 and find that these Administration sponsored bills embody all of the important concepts that the Basin states have determined are necessary for an effective Department of Agriculture program to be established in the Colorado River Basin for salinity control. We are, therefore, here today to support either or both of these bills. The Department of Agriculture has communicated to us in the past some suggested amendments to various legislative proposals. The seven Basin states can support the amendments requested by the Department of Agriculture.

In the control of salinity, time runs against us. The states believe that it is critical that the legislation we support here today be quickly implemented. In our judgment, failure to act will result in a loss of valuable time and will prevent the Department of the Interior and the Department of Agriculture from implementing the salinity program in the most cost effective way. The Administration, as evidence of its support of this legislation has requested that $12.6 million be appropriated for FY 85 to start the implementation of this program. We have prepared testimony for the House and Senate Appropriation Committees urging that these funds be appropriated by the Congress. Prompt action by this Committee to authorize the program will allow for that appropriation.

The proposed legislation before you today would establish the new program in the Department of Agriculture that the Basin states support. It would allow the Department, on a voluntary cost share basis, to offer assistance to farmers for the improvement of irrigation practices. The benefits to salinity control from improvements in return flows from irrigated lands are highly significant even though, to a large degree, the benefits occur hundreds of miles downstream. We have learned over the last decade that some of the most cost effective salinity control strategies involve technologies that the Department of Agriculture can best advance as onfarm improvement in agricultural practices. H.R. 3903 and S. 1842 would authorize the Department of Agriculture to create this new program and write rules and regulations that will be tailored to the needs of the salinity control program on the Colorado River.

I observe with great interest the expanded regional approach that is at the heart of the proposed new agricultural program. Upstream irrigators will modify farming practices that have been in place for more than half a century. Yes, an irrigator in the Grand Valley in Colorado will invest his money, time, and effort to do a better job of farming so that water users in southern California, central Arizona, on the Indian reservations along the

River and in Mexico can be spared the adverse impacts that would otherwise accompany the deterioration of the quality of their water supplies. The proposed legislation provides for a sharing of cost. The end result is that the entire Basin will benefit as some of the most cost effective programs are implemented on private land, on a voluntary basis. We anticipate that western farmers will spend up to $50 million and countless hours as their share in implementing the program.

As evidence of the basin-wide support for these concepts is the fact that the states are officially unanimously supportive of the legislation through the Forum. Further evidence is the cosponsorship of this legislation by all fourteen Basin senators. This basin-wide unanimity is complimented by the cooperation of the Administration and the support of the Department of Agricultural officials responsible for implementing salinity control programs in the Basin. At the grass roots level, the united support is demonstrated by the many farmers that have, and are anxious to in the future, participate in the program where the program has been offered on a trial basis under the ACP program in Colorado and Utah and by the testimony of farmers in the Lower Basin urging that the quality of the water that they received be controlled. Further evidence of the support of this proposed program is the strong affirmative action taken by the House on H.R. 3903.

Because the states and the citizens of the region will be joining with the Department of Agriculture in this most significant and worthwhile effort it is important to us that there be an understanding as to the magnitude of the effort that Congress is being asked to authorize. It is our understanding that the program as it is now conceived is best described in a recent report by the Department of Agriculture entitled "1982 Annual Report, Colorado River Basin Salinity Control Program". More specifically, there is a table and a figure on pages 24 and 25 which give anticipated levels of funding and a timetable for the implementation of the program in various geographic areas of the Basin.

One aspect of the proposal that both the Basin states and the Department of Agriculture support is provisions, again on a voluntary basis, for the replacement of incidental wildlife values. The legislation drafted by the states qualifies or gives criteria as to how the proposed replacement, on a case-by-case basis, is to be evaluated.

We feel that this criteria should be made a part of H.R. 3903 (or S. 1842) or made a part of the Committee report. We have been advised by representatives of the Department of Agriculture that the criteria is in keeping with the intended procedures that the Department of Agriculture would instigate if the legislation were enacted. The criteria is that measures for salinity control may also include measures to replace incidental wildlife values foregone as a result of the salinity control effort, except that:

(A) such measures shall not significantly diminish the salinity improvement to be achieved;

(B) use of water for such measures shall be in accordance with state water law;

(C) to the extent practicable, the measures undertaken shall minimize the use of water; and

(D) the cost of such measures shall be only a minor part of the total cost of each salinity control measure or separable portion thereof.

On behalf of the seven Colorado River Basin states, I want to thank this Committee for the attention it is giving to this important legislation. In the short term, we offer the cooperation and support of the states and the Forum and its staff to assist the Congress as it considers this legislation. In the long term, we offer a state/federal partnership in the implementation of this most important water quality control effort.

STATEMENT OF DANIEL F. LAWRENCE, DIRECTOR
UTAH DIVISION OF WATER RESOURCES

My name is Daniel F. Lawrence, and I am the Director of the Utah Division of Water Resources as well as the Utah Interstate Streams Commissioner. The statement I will give has been approved by Governor Matheson, and can be taken as the position of the State of Utah on S. 1842 and H.R. 3903, bills which would promote salinity control on agricultural lands in the Colorado River Basin.

Utah has been heavily involved in the Colorado River salinity issue since it began to be seriously recognized in 1968. I personally have been a member of the Colorado River Basin Salinity Control Forum since its inception in 1973 and a member of the Colorado River Basin Salinity Control Advisory Council since its organization in 1974. I have seen the Forum unite the seven Basin states for the first time to address a common problem and propose solutions technically, economically, and politically acceptable to all.

One of the most significant accomplishments of the Forum and seven Basin states was the formulation and passage of Public Law 93-320, the Colorado River Basin Salinity Control Act. This Act was noteworthy for its implicit recognition of salinity control as in large part a Federal obligation, and also in its innovative approach to State-Federal and Upper-Lower Basin cost-sharing. Enactment of this bill into law demonstrated conclusively that the Basin states and the federal government could come to agreement on the difficult questions associated with salinity control on the Colorado River.

Nine years have passed since enactment of Public Law 93-320, and changing conditions have made new legislation imperative. One of the areas of salinity control which could most benefit by legislative change relates to agricultural programs.

The USDA Uinta Basin Unit is one of two operational agricultural salinity control projects (the other is the Grand Valley Unit), and has been extremely effective and popular with the local farm operators. Our experience with this project, however, has shown that program changes relating to eligibility of participants, budgeting, and incidental wildlife values could broaden the participation, facilitate implementation, and improve the cost-effectiveness of subsequent programs.

The record of Utah on control of Colorado River Basin salinity is clear, from initial leadership in 1973 of the Salinity Control Forum to the publication in 1982 of a State salinity strategy. It is our feeling that this legislation is a logical and necessary extension of past efforts to accomplish the purposes of the Salinity Control Act in an expeditious and cost-effective manner. We urge passage of both S. 1842 and H.R. 3903.

II

98TH CONGRESS
1ST SESSION

S. 1842

To amend the Colorado River Basin Salinity Control Act to authorize the Secretary of Agriculture to develop and implement a coordinated agricultural program in the Colorado River Basin.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 14 (legislative day, SEPTEMBER 12), 1983

Mr. ARMSTRONG (for himself, Mr. HATCH, Mr. GARN, Mr. WILSON, and Mr. GOLDWATER) introduced the following bill; which was read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

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A BILL

To amend the Colorado River Basin Salinity Control Act to authorize the Secretary of Agriculture to develop and implement a coordinated agricultural program in the Colorado River Basin.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 202 of the Colorado River Basin Salinity Control Act (Public Law 93-320; 43 U.S.C. 1592) is amended by—

(1) redesignating the existing text as subsection (a);

(2) striking out the fourth, fifth, and sixth sentences of paragraph (2); and

(3) adding at the end thereof the following new subsection:

"(b)(1) The Secretary of Agriculture is authorized to establish a voluntary cooperative program with private landowners to improve onfarm water management and reduce watershed erosion on non-Federal lands and on lands under the control of the Department of Agriculture for the purpose of assisting in meeting the objectives of this title.

"(2) In carrying the program authorized by this subsection, the Secretary of Agriculture is authorized to—

"(A) identify salt-source areas and determine the salt load resulting from irrigation and watershed management practices;

"(B) develop, in consultation with the public and affected governmental interests, plans for implementing measures that will reduce the salt load of the Colorado River by improving onfarm irrigation water management including improvement of related laterals and by improving watershed erosion management practices, such measures to include replacement of incidental wildlife values forgone as a result of constructing the salinity control improvements;

"(C) provide technical and cost-sharing assistance for the voluntary implementation of plans through contracts and agreements with individuals or groups of owners and operators of farms, ranches, and other lands as well as with local governmental and nongovernmental entities such as irrigation districts and canal companies, except that—

"(i) a portion of the costs of implementing such plans shall be shared by the participants on the basis of benefits received and other appropriate factors, as determined by the Secretary of Agriculture; and

"(ii) such contracts and agreements shall provide for continuing operation and maintenance of measures installed under this subsection without additional Federal cost-sharing; and

"(D) provide continuing technical assistance for irrigation water management as well as monitoring and evaluation of changes in salt contributions to the Colorado River to determine program effectiveness and carry out related research, demonstration, and education activities.

"(3) The measures to be implemented in any particular salt source area shall be described in reports issued by the

Secretary of Agriculture. Copies of the reports are to be submitted to—

"(A) the House Committees on Agriculture and Appropriations, and the Senate Committees on Agriculture, Nutrition, and Forestry and Appropriations;

"(B) members of the Advisory Council established by section 204(a); and

"(C) the Governor of any State where measures are to be implemented.

No funds for implementation of proposed measures undertaken pursuant to this subsection may be expended until the expiration of sixty days after submission of the report of the Secretary of Agriculture.

"(4) The Secretary of Agriculture may use existing agencies, as well as the services and facilities of the Commodity Credit Corporation, to carry out the provisions of this subsection. The Secretary of Agriculture, in addition, may authorize participating agencies to utilize grants or cooperative agreements with conservation districts, local governmental agencies, colleges and universities, or others as appropriate to carry out the activities identified in paragraph (2). There is authorized to be appropriated annually, to be available until expended, such funds as may be necessary to carry out the provisions of this subsection, provided that no disbursement shall be made by the Commodity Credit Corporation unless it has received funds to cover the amount thereof from appropriations available for the purpose of carrying out this Act.

"(5) The Secretary of Agriculture shall submit a report to Congress by January 1, 1988, and at each five-year interval thereafter, concerning the operation of the program authorized by this subsection. Such report shall contain an evaluation of the operation of such program and may include recommendations for such additional legislation as may be necessary to solve identified salinity problems in areas designated by the Secretary and may include recommendations to utilize new technology and research related to such problems.".

SEC. 2. Section 205(a) of such Act (43 U.S.C. 1595(a)) is amended by inserting "(a)" after "section 202".

SEC. 3. Section 208(a) of such Act (43 U.S.C. 1598(a)) is amended by striking out "this title" and inserting in lieu thereof "section 202(a)".

SEC. 4. Section 208(b) of such Act (43 U.S.C. 1598(b)) is amended by inserting "(a)" after "section 202".

SEC. 5. The amendments made by this Act shall take effect on October 1, 1983.

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II

98TH CONGRESS
1ST SESSION

H. R. 3903

IN THE SENATE OF THE UNITED STATES

NOVEMBER 16 (legislative day, NOVEMBER 14), 1983

Received; read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

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AN ACT

To authorize the Secretary of Agriculture to develop and implement a coordinated agricultural conservation program in the Colorado River Basin.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. The Secretary of Agriculture (hereinafter referred to as "the Secretary") may establish a voluntary cooperative program with landowners to improve onfarm water management and reduce watershed erosion on non-Federal lands and on lands under the control of the Department of Agriculture for the purpose of assisting in controlling salinity in the Colorado River Basin.

SEC. 2. In carrying out any program under this Act, the Secretary may—

(1) identify salt-source areas and determine the salt load resulting from irrigation and watershed management practices;

(2) develop, in consultation with the public and affected governmental interests, plans for implementing measures that will reduce the salt load of the Colorado River by improving onfarm irrigation water management, including improvement of related laterals, and by improving watershed erosion management practices, such measures to include replacement of incidental wildlife values foregone as a result of constructing the salinity control improvements;

(3) provide technical and cost-sharing assistance for the voluntary implementation of plans through contracts and agreements with individuals or groups of owners and operators of farms, ranches, and other lands as well as with local governmental and nongovernmental entities such as irrigation districts and canal companies, except that a portion of the costs of implementing such plans shall be shared by the participants on the basis of benefits received and other appropriate factors, as determined by the Secretary, and except that such contracts and agreements shall provide for

continuing operation and maintenance of measures installed under this section without additional Federal cost sharing; and

(4) provide continuing technical assistance for irrigation water management, provide for the monitoring and evaluation of changes in salt contribution to the Colorado River to determine program effectiveness, and carry out related research, demonstration, and education activities.

SEC. 3. (a) The measures to be implemented in any particular salt source areas shall be described in reports issued by the Secretary. Copies of the reports shall be submitted to—

(1) the Committees on Agriculture and Appropriations of the House of Representatives, and the Committees on Agriculture, Nutrition, and Forestry and Appropriations of the Senate;

(2) members of the Advisory Council established by section 204(a) of Public Law 93–320; and

(3) the Governor of any State where measures are to be implemented.

(b) No funds for implementation of proposed measures undertaken pursuant to this section may be expended until the expiration of sixty days after submission of the report of the Secretary.

SEC. 4. The Secretary may use existing agencies, as well as the services and facilities of the Commodity Credit Corporation, to carry out the provisions of this Act. The Secretary also may authorize such participating agencies to make grants to or enter into cooperative agreements with conservation districts, local governmental agencies, colleges and universities, or others as appropriate to carry out the activities identified in section 2. There are hereby authorized to be appropriated annually, to be available until expended, such funds as may be necessary to carry out the provisions of this Act: *Provided,* That no disbursement may be made by the Commodity Credit Corporation except to the extent and in such amounts as provided in advance in appropriation Acts.

SEC. 5. The Secretary shall submit a report to Congress by January 1, 1988, and at each five-year interval thereafter, concerning the operation of the program authorized by this Act. Such report shall contain an evaluation of the operation of such program and may include recommendations for such additional legislation as may be necessary to solve identified salinity problems in areas designated by the Secretary and may include recommendations to utilize new technology and research related to such problems.

SEC. 6. The Act shall take effect on October 1, 1984.

Passed the House of Representatives November 16, 1983.

Attest: BENJAMIN J. GUTHRIE,

Clerk.

STAFF EXPLANATION OF S. 1842 AND H.R. 3903

S. 1842 and H.R. 3903 contain the same substantive provisions. These bills would amend the Colorado River Basin Salinity Control Act to authorize the Secretary of Agriculture to establish a voluntary program in cooperation with landowners (private landowners in S. 1842) for purposes of improving onfarm water management, reducing watershed erosion on non-Federal lands and on lands under the control of the Department of Agriculture, and to assist in controlling salinity in the Colorado River Basin (Note: The Colorado River Basin is composed of all or a part of the States of Wyoming, Colorado, Utah, New Mexico, Nevada, Arizona, and California.) In carrying out this program, the Secretary is authorized to——

(a) identify salt-source areas and determine the salt load resulting from irrigation and watershed management practices;

(b) develop plans for reducing the salt load of the Colorado River by (i) improving onfarm irrigation water management and (ii) improving watershed erosion management practices, including replacement of incidental wildlife values foregone as a result of constructing the salinity control improvements;

(c) provide technical and cost-sharing assistance for the implementation of plans through contracts and agreements with individuals or groups of landowners or farm operators and with local government entities, irrigation districts and canal companies. The cost of implementing the plans would be shared by the plan participants on the basis of the benefits received and such other factors as determined by the Secretary. The contracts and agreements must provide for the continuing operation and maintenance of the measures installed without additional cost-sharing on the part of the Federal government; and

(d) provide continuing technical assistance for irrigation water management and monitoring salt contributions to the Colorado River to determine program effectiveness, and carry out related research, demonstration, and education activities.

The conservation measures to be implemented in a given salt source area shall be described in reports issued by the Secretary to——

(a) the Agriculture and Appropriations Committees of the House and the Agriculture, Nutrition, and Forestry and Appropriations Committees of the Senate;

(b) the Colorado River Basin Salinity Control Advisory Council (Note: This council is composed of no more than 3 members from each of the Colorado River Basin States.); and

(c) the Governor of any State in which measures are to be implemented.

No funds may be used to implement any measure undertaken under the bills until the expiration of 60 days after submission of the Secretary's report.

The Secretary is authorized to use the services and facilities of the Commodity Credit Corporation, as well as other agencies of the Department of Agriculture, to carry out the provisions of the bills. The Secretary may authorize participating agencies to utilize grants or cooperative agreements with conservation districts, local government agencies, and colleges and universities to carry out the provisions of the bills.

The bills authorize annual appropriations of such funds as necessary to carry out the provisions of the bills. Under S. 1842, no disbursement of funds may be made by CCC unless it has received funds to cover the amount of the disbursement from appropriations made for the purpose of carrying out the bill. Under H.R. 3903, no disbursement may be made by CCC except to the extent and in such amounts as are provided in advance in appropriation Acts.

The Secretary is required to submit a report to Congress by January 1988, and every 5 years thereafter, evaluating the program established in the bills. This report may include recommendations for (1) additional legislation, and (2) new technology and research that may be used to solve salinity problems.

The provisions would be effective October 1, 1983, under S. 1842 and October 1, 1984 under H.R. 3903.

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